

Secondary School Teaching Methods

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To
Roy O. Billett
A Master Teacher

Preface

This book has been written to help prospective teachers learn how to teach. It is designed as a college textbook for a single semester course in general methods of teaching in the secondary school, although it might serve well as a reference work for student teachers and teachers in service. The authors have attempted to make the book as practical and useful as possible. To achieve this end, they have tried to write from a middle-of-the-road point of view, and to describe methods suitable for use in the type of school in which the student is likely to teach when he goes to his first position. For this same reason, they have attempted to write simply and clearly, to use numerous examples, and to point up important understandings by means of questions at appropriate places within the text itself. In the interest of clarity and simplicity, the authors have kept quotations and references to scholarly works to a minimum. Detailed discussions of the nature of learning, the aims and objectives of education, the American system of education, and the secondary school curriculum have been omitted because the authors feel that such topics have no place in a general methods course. In fact, the authors have omitted discussions of educational theory except when it seemed necessary to explain the why of the methods advocated. Nevertheless, the emphasis is, of necessity, on principles rather than recipes. There are no sure-fire recipes in teaching.

When a book is written in collaboration, readers are sometimes curious to know who did what. In this case, Dean Starr conceived the original idea and assumed major responsibility for the portions of the text having to do with the pupil, and with classroom management and administration.

The authors wish to acknowledge their indebtedness to the many people—students, teachers, and friends—who have helped them write this book. Grateful thanks are due to the students, teachers, superintendents, principals, and publishing houses who allowed the authors to reproduce their materials. A particular debt of gratitude is owed to Roy O. Billett, formerly professor of education at Boston University, in whose classes the authors formed many of their ideas concerning education; to Professor William T. Gruhn of the University of Connecticut, who went considerably beyond the call of duty in reading and criticizing the manuscript; and to Maria A. Clark who not only typed the manuscript innumerable times, but also read the copy and made suggestions for improving the wording; and without whose help the book could never have been finished.

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Contents

Chapter 1

WHAT IS TEACHING?	1
The Teacher's Job	2
Blocks To Learning	6
Verbalism, An Ever-Present Danger	8
Knowing the Pupil	10
Summary	21

Chapter 2

MOTIVATION	23
Utilizing Present Motives	24
Making Learning Worthwhile	30
Establishing Suitable Objectives	33
Keeping Up the Pace	35
Creating a Receptive Mood	36
Cultivating Desirable Attitudes and Ideals	38
Summary	38

Chapter 3

PROVISIONS FOR INDIVIDUAL DIFFERENCES	40
Differentiating the Assignment	42
Other Means of Providing for Individual Differences	47
The Slow Pupil	52
The Gifted Pupil	55
Summary	57

Chapter 4	
PLANNING FOR TEACHING	59
Planning the Course	59
Pupil-Teacher Planning	63
Planning Lessons	68
Preparing the Assignment	73
Summary	77
Chapter 5	
THE UNIT	79
The Teaching-Learning Cycle	80
✓ Planning the Unit	86
✓ Planning the Objectives	88
Planning the Unit Assignment	94
Summary	101
Chapter 6	
✓ SOME SPECIFIC TEACHING TECHNIQUES	103
Lectures and Teacher Talks	103
Conducting Practice Activities	105
✓ Remedial Teaching	110
✓ Using Questions	113
The Project	119
Summary	121
Chapter 7	
GROUP TEACHING TECHNIQUES	123
Teaching through Committees	123
Dramas and Sociodramas	128
Discussion Techniques	132
Summary	138
Chapter 8	
READING, STUDYING, AND PROBLEM SOLVING	140
Reading Activities	140
Guiding Study	150
Problem Solving	156
Summary	159

CONTENTS**xi****Chapter 9**

THE MATERIALS OF INSTRUCTION	161
The Use of Audio-Visual Aids	161
Using Different Kinds of Aids	164
Other Materials of Instruction	171
Using the Community	175
Summary	181

Chapter 10

EVALUATION	183
Diagnosis	185
Promotion	193
Evaluative Devices	195
Summary	203

Chapter 11

TESTING	205
Building an Objective Test	207
Building an Essay Test	215
Administering and Scoring Teacher-Built Tests	217
Standardized Tests	223
Summary	228

Chapter 12

MARKING AND REPORTING TO PARENTS	230
Marking Tests and Papers	233
Term and Course Marks	236
Reporting to Parents	239
Summary	252

Chapter 13

DISCIPLINE	254
Causes of Misbehavior	255
Achieving Classroom Control	259
Creating Self-Discipline	268
Summary	270

Chapter 14	
CLASSROOM MANAGEMENT	272
The Physical Environment	272
Handling Classroom Routine	278
Administrative Duties	280
Summary	283
Chapter 15	
THE TEACHER AND EXTRA-CLASS RESPONSIBILITIES	285
The Teacher and the Extracurriculum	285
Criteria for Planning Extracurricular Activities	288
The Teacher and the Guidance Program	293
Other Professional Responsibilities	300
Summary	303
Chapter 16	
THE BEGINNING TEACHER	305
Relationships with the Pupils	307
Relationships with Parents	310
Relationships with the Community	311
Relationships with Other Staff Members	312
The Ethics of the Profession	316
Growth in the Profession	317
Becoming a Professional Teacher	319
Appendix A	
RESOURCE UNIT: BETTER FOODS AT LOWER COST	321
Appendix B	
CODE OF ETHICS OF THE NATIONAL EDUCATION ASSOCIATION	330
INDEX	335

CHAPTER 1

What is teaching?

An imaginary conversation (with apologies to Plato and Walter Savage Landor)

SCENE: *The Elysian fields.*

TIME: *the present.*

CHARACTERS: *Socrates and a student reporter.*

What was your profession on earth, O Socrates?

I was a teacher.

Why did you follow that profession?

Because it was most satisfying and challenging to me. I was an ignorant man, yet, like a gadfly, I stung the minds of young men to action. I gave many of them new ideas and new knowledge. Some of them even learned to think.

Is that the teacher's job, Socrates?

A teacher's job is to help his pupils learn. If the pupils do not learn anything, the teacher has not taught anything.

When has a pupil learned something, Socrates?

A person has learned when he is able to do something he could not do, or he knows something he did not know, or he has an attitude, an ideal, or an appreciation he did not have before. I think your psychologists call it a change of behavior.

Must the learning always be something new, Socrates?

No, of course not. One learns when he changes an attitude, an ideal, or an appreciation, or in some way alters a skill or knowledge.

Is teaching difficult, Socrates?

Oh, yes. Teaching requires great skill and much knowledge.

For instance, if one were to teach mathematics, or literature, or music, you would expect him to know considerable about these subjects, would you not?

Yes, Socrates.

And you would expect him to know what materials might best be used by his classes, and where this material might be obtained, would you not?

Yes, Socrates.

And you would expect him to know how people learn and those things which prevent learning so as to avoid them?

Yes, Socrates.

And you would expect him to know the best techniques and methods of teaching and when and how to use them most effectively, would you not?

Yes, Socrates.

And would you not expect him to understand thoroughly the nature of boys and girls and to know each of his pupils particularly well so that he could use the methods, techniques, and materials best suited to the pupils?

Of course, Socrates.

Do you not then agree with me that teaching is a profession which requires skill and much knowledge?

Yes, I do, Socrates. It is indeed fortunate that we have courses in teaching so that prospective teachers may learn the theory and practice of teaching.

That is true. In my day it was different. We were at a disadvantage.

Would you become a teacher again, Socrates?

Of course; it is a great profession. In no other has one more stimulating opportunities and pleasant associations. In no other has one a greater opportunity for service.

THE TEACHER'S JOB

The teacher, a master of the techniques of teaching

Teaching is a great profession. It requires great skill and much knowledge. This is the challenge of teaching. Take the case of Joe, a tenth-grader.

Joe is slightly under middle height. In class he is very quiet. He

never causes disciplinary disturbances. Neither does he do any work. In fact, one would hardly know he was in the class at all. He just sits there. When the teacher cajoles him, he says that he "is dumb and can't do it, so there's no use trying." But this is not true. Test scores show him to be in the normal range, somewhat on the dull side. His other activities do not indicate excessive dullness. He cannot read well at all (he is reading at a sixth-grade level), but he is one of the best soccer and basketball players in the school. On the field his playing is marked by its aggressiveness. As a matter of fact, this aggressiveness largely makes up for his lack of height in basketball. The coach says that he is one of the "smartest" forwards he has seen on the soccer field in the last few years.

Joe has never been known to pick up a book voluntarily. It has been a long time since he has turned in an acceptable paper. He knows that his failures will make him ineligible for varsity athletics, but he sees no reason for working because he is sure he will fail anyway. If he should pass, he will say it is only because the teacher is "giving him a break." Seemingly, he has no interest other than athletics.

Difficult cases like Joe's challenge the ingenuity, the resources, and the skill of a teacher. The unskilled teacher might be overwhelmed by Joe's lack of enthusiasm and decide to give up. Not so the professional teacher. He knows that he must teach Joe—whether Joe wants to learn or not—and he has the knowledge and the resources with which to undertake this task.

Joe poses a difficult problem, but even cases like that of Billy need skillful teaching. Billy is an average eighth-grader with average intelligence. Usually a happy person, he gets along well with his teachers and his peers. Billy's mother is a homemaker and his father is a mechanic. There are two other children at home, one younger and one older than Billy. Home is the focal point of life in the family. Billy seems to have no great problems. Yet he does have trouble with some of his school work. All normal pupils do, and Billy is normal, not brilliant. Although he is a willing worker and as cooperative as he can be, he will find many of his assignments too much for him. It will take plenty of skillful teaching if Billy is to get the most out of his mathematics, for instance.

In both of these cases the teacher's responsibility is to teach the pupil something. To meet this responsibility requires efficient, effec-

tive teaching. In general, the procedure in most good teaching follows about the same pattern:

1. Diagnosing the learning situation.
2. Preparing the setting for learning.
3. Guiding learning activities.
4. Evaluating the pupils' learning.

To be competent a teacher should be a master of the techniques necessary to carry out each of these steps.

What are the implications of the statement: If the pupils do not learn anything, the teacher has not taught anything?

Would you try to teach Joe and Billy the same material? Would you try to teach them in the same way?

Do you agree that it is the teacher's job to teach Joe whether Joe wishes to learn or not?

Diagnosing the learning situation

The first procedure in good teaching is to diagnose the teaching-learning situation. Somehow the teacher must find out what the needs of the pupils are so that he can plan experiences which will help them satisfy their needs. This entails knowing every youth as well as possible. Any doctor will tell you it is impossible to know too much about a patient. In a very real sense the pupils are the teacher's "patients." When the pupil is in good academic health the teacher tries to keep him so. When he is not, the teacher's job is to bring him back to health as soon as possible.

A case in point: Learning is usually developmental. That is to say, new learning builds upon previous learning. A child needs to understand simple multiplication before he can succeed with long division. A pupil who does not know the principles of solving simple equations will probably have a difficult time with quadratics. Since this is so often so, learning should follow an orderly sequence with the new learning building upon past learning.

Moreover, learning is not merely the accretion of new concepts, skills, ideals, attitudes, and appreciations. Rather it is the integration of these new learnings and the concepts, skills, ideals, attitudes, and appreciations already present. The new learning becomes interwoven into one's personality. The result is really a personality change of some sort or another. This takes time. Although many

pupils learn many things rapidly, thorough learning is apt to be a relatively slow process.

Since learning is developmental, it follows that one learns better when one is ready to learn. The principle of readiness has confused both teachers and lay people. Actually, it is quite simple. Readiness is a combination of maturity, ability, prior instruction, and motivation. A person is ready to learn something when he has matured enough to learn it efficiently, when he has acquired the skills, knowledge, and strengths prerequisite to learning it, and when he is sufficiently motivated. When a pupil has reached such a state of readiness, the teacher's job is relatively easy; when he has not, the teacher's job is more difficult and sometimes absolutely impossible. No one would attempt to teach a toddler the classic ballet: one must learn to walk before he can learn to run. Therefore, an essential part of diagnosis is to determine for what the pupils are ready.

Preparing the setting for learning

The job of a theatrical producer is to provide a setting in which the action of the play can take place. So it is with the teacher. He must provide a setting for learning. This setting for learning includes many things. It includes creating a pleasant physical environment which will invite the pupils to learn. It includes providing the materials of learning so that they will be in the right place at the right time. But more than that, it includes providing an intellectual setting which will cause boys and girls to want to learn. This will be discussed in more detail in the following chapter.

Guiding learning activities

Once the stage has been set and the pupil is ready to work, the teacher must guide his learning. This can be done in many ways. *The first job of the teacher is to help select the activities that are most appropriate for the pupil's goals and needs.* As the pupil proceeds on the path selected, the teacher must help him toward the goal. The teacher can do this by showing the pupils how to do things, by presenting new facts and concepts, and by explaining and expanding old ones through such techniques as asking questions, giving vivid examples, and using audio-visual aids. The teacher can also guide the pupil by pointing out his errors. As the teacher

watches the pupil's progress, he shows the pupil that here he has taken the wrong approach, here he has gone off on a tangent, here his thinking is illogical, here his premises are false, or here he is inconsistent. Praising good work and encouraging successful and profitable lines of endeavor are also among the effective techniques in guiding learning.

Evaluating pupil learning

Guiding pupils' learning is also a continuous process of evaluation and re-evaluation. In order to ensure that learning proceeds on its proper course, the teacher must examine the progress of the learning. On the basis of this evaluation the teacher can determine what the next steps should be. From it he can learn what has been missed and what must be retaught, and where the emphasis should be placed in succeeding classes. Evaluation also tells the pupil where he has hit or missed the mark. It is essential to diagnosis and necessary to good instruction.

Is the fact that a pupil has successfully passed the prerequisites to a course any guarantee that he is ready for it? How might one tell if the pupil is ready?

Without continuous evaluation teaching is seldom efficient. Why?

Can you think of any teaching-learning situation in which any of the four steps just described should be omitted?

Evaluation usually shows that not all pupils have reached the same point. What implications does this have for the guiding of learning activities?

BLOCKS TO LEARNING

Excuses for not learning

Carrying out these steps successfully should result in successful teaching. Why, then, is it that we teachers so often fail to bring our pupils to a superior state of learning? Teachers and parents have many excuses, of course. The following are typical:

• "Eileen is the silliest girl you've ever seen. She never pays attention to a thing. She can't keep her mind on anything." (But watch her at the theater. Engrossed in dreamland she sits. Seemingly no commotion in the theater could detract her attention from the plot.)

"John is the most stupid boy I've ever seen." (Yet he was able to learn music and become the highly successful leader of his own orchestra.)

"Joe is the laziest boy in school. He just won't do a thing. I don't think he has finished one algebra assignment this year." (But think of the hours of hard physical and mental work he has spent putting together his hot-rod. His mother has a hard time getting him away from that car long enough to eat his dinner.)

Real causes for not learning

These excuses, as we can see, do not explain pupils' not learning. They probably describe symptoms of the real causes. What are the real causes? Let us look at a few of them.

First and most important is poor teaching. Teaching is often ineffective, because it is inadequately planned or because it violates the laws of learning. Some courses are poorly organized and lack direction. Some classes are poorly motivated. In some courses the work is too hard or too easy. Some teachers attempt to cover the subject rapidly instead of giving it time to sink in. Some teachers ignore the fact that pupils are individuals with varying backgrounds, talents, and interests, and attempt to teach everyone the same material at the same rate in the same way.

Poor teaching and poor courses probably cause most failures to learn, but they are not the only causes. Pupils are often handicapped by poor health, fatigue, physical or mental limitations, emotional difficulties, environmental factors or family attitudes. If a pupil's father and mother feel that studying a Shakespearean sonnet is a waste of time and money, it is usually difficult to convince the youth that he should devote much time to it. Or again, a young person may believe, as did the poetess, in burning the candle at both ends. Although this practice may give "a lovely light," it is not helpful because fatigue hinders learning and too many interests distract pupils from the desired learnings.

These, then, are some of the blocks to learning. If the teacher is to do his job—helping pupils learn—they must be overcome. Of course, the teacher is not always in a position in which he can do much to overcome them. But if he is a good teacher, he will take each youngster with all his faults and try, by using the best methods and materials he knows, to help the pupil learn those things he ought

to learn in spite of the obstacles. This is one of the challenges of teaching.

VERBALISM, AN EVER-PRESENT DANGER

Necessity for clear concepts

Really to know something one must have clear concepts. Many times we think we know when actually we have only vague notions. If we do not know clearly enough to use the knowledge, we do not really know at all. How often we try to explain a word and find that we cannot do it. We say, "I know what it means, but I just can't explain it." More often than not, the truth is that we really have only a fuzzy idea. Our understanding is about on a par with that of the high-school girl who on her test paper defined adolescence as "the period from childhood to adultery"!

A case of mistaken identity

Learning about something is not the same as learning it. Neither does one learning product guarantee another. For example, the boy who only reads about how to swim may sink like a rock when he gets into the water. Similarly, the girl who learns the rules of grammar and can do all the exercises in her grammar work book perfectly may not be able to write a clear, idiomatic sentence. Or again, a graduate student may find that studying technical French has not helped him a bit when ordering a dinner in Paris. Neither does studying American history necessarily produce good citizens. To learn something we must study *it*—not about it or something like it.

An example of this confusion is the common error of mistaking memorizing for knowing. We confuse the word with the deed, the name with the object. Aborigines hide their names so that evil spirits cannot hurt them. Children are often asked to learn words and phrases which mean nothing to them. It is quite possible to repeat that in a right triangle the square of the hypotenuse is equal to the sum of the squares of the opposite sides and yet not have the slightest idea of the meaning of square, hypotenuse, opposite sides, or right triangle. Thousands of pupils can glibly recite that a noun is the name of a person, place, or thing, and yet not be able to pick a single noun out of a sentence. The cartoon of Miss Peach's class illustrates how well some elementary-school children understand the pledge of

allegiance to the flag. This parroting is called verbalism. It is one of the banes of both the elementary and secondary school. Really to know something we must know it well enough to use the knowledge.

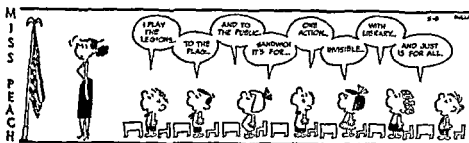


Figure 1. Miss Peach's pupils recite the pledge of allegiance to the flag. (Copyright, 1957, New York Herald Tribune, Inc. Reproduced with permission.)

Need for both vicarious and direct learning

In some instances verbalism is the result of an overuse of vicarious learning. Much of our best learning comes through direct experience like that of the burnt child who learned to fear the fire. Fortunately, it is not necessary to get burnt. We can learn vicariously—through the experiences of others. Not everyone can go to see the pyramids, but all can learn about them from descriptions and pictures. The direct experience usually results in more vivid learning, but it is not always efficient. Sometimes it is quite inefficient, time-consuming, and costly, as in the case of the burnt child. "Learning the hard way," we call it. For this reason we must rely on vicarious experience for much of our school work. To do so is quite proper. It saves time, money, and effort. Used properly it can be quite effective. In many instances it is the only type of experience possible. However, many high-school teachers rely too much on vicarious learning. This may lead to verbalism. A balance between vicarious and direct learning is imperative. In general, learning situations should be as realistic as possible.

Need for realistic learning

Realistic learning situations help make the learning meaningful to the pupil and thus help to avoid verbalism. Only meaningful material can be learned efficiently. To require boys and girls to learn things that they do not understand is absurd. In the first place,

if the learning is meaningless to the learner it is useless. In the second place, meaningless material is much more difficult to learn than meaningful material. Yet many youngsters are required to learn things meaningless to them every day. How many youngsters have striven to learn:

Once upon a midnight dreary, as I pondered, weak and weary,
Over many a quaint and curious volume of forgotten lore,
As I nodded, nearly napping, suddenly there came a tapping
As of someone gently rapping, rapping at my chamber door.

even though they had not the slightest idea of what it was all about and could not translate "midnight dreary," "quaint and curious volume," "forgotten lore," or even "chamber door."

In order to avoid verbalism and inefficient learning among his pupils, the teacher should see to it that all learning situations in his classes are meaningful. To do so, he must eliminate meaningless material either by omitting it altogether or preparing the pupils for it so that it will be meaningful when they study it. In the foregoing example one might substitute a less difficult poem for *The Raven*, or one might prepare the pupils by studying the poem, its message, and its vocabulary before attempting to learn it. In any case, in guiding the pupils' activities the teacher should make every effort to ensure that the experience is meaningful to the pupils.

How might audio-visual aids be used to combat verbalism?

Do you know any of your school or college mates whom you consider to be quite capable but who do not do well in their studies? What seems to be the cause of their inability to learn?

KNOWING THE PUPIL

The pupil as a person

Teaching requires not only a knowledge of boys and girls and how they learn; it also requires a particular knowledge of each of the boys and girls in the class, for the teen-ager who is our secondary-school pupil is an individual of complexities and enigmas. This business of growing up is a complicated one. The adolescent is torn by many conflicts and many moments of indecision. At one moment, he may struggle for complete independence. At the next moment he may need the reassurance and protection he required when he was

younger. As he enters early adolescence, he brings with him personal, social, educational, and vocational problems which he is incapable of analyzing and for which he is incapable of setting up any logical solution. Take the case of Judy, for example.

Judy, a pleasant girl of fifteen in the tenth grade, is a typical example of a teen-ager beset by the many problems of the adolescent. She is more concerned with the telephone than with homework; more concerned with her appearance than with that of her room or her locker; more with going on dates than with studying at home. Judy's school work is suffering, and feelings of antagonism have developed between her and her teacher. It seems as if Miss C. is usually punishing Judy for one thing or another. At home antagonism between mother and daughter also prevails, although Judy is doted on by her father who works in the local bank. In fact, the parents often argue over Judy.

This picture of Judy is not at all unusual. The lives of many adolescents are quite stormy. Of course, most youngsters, especially those who come from healthy home and school environments, surmount these difficulties relatively unscathed. Still, the teacher who is aware of the nature of the changes taking place and who understands the reasons for behavior can do much toward helping the pupil during this trying period. By getting to know and to understand the pupil the teacher is in a position to help the pupil solve these problems and to adapt his program to make the most of the situation.

The problem-inventory approach

One effective means of finding out what worries, problems, or concerns a pupil might have is the problem-inventory approach. A recent effective instrument is the "Billett-Starr Youth Problems Inventory, Junior Level" and the "Billett-Starr Youth Problems Inventory, Senior Level."¹ These inventories are intended to provide the means of identifying the personal problems of individual pupils. They attempt to get at the intensity of a student's problems by allowing him to differentiate between those which bother him "some" and those which bother him "very much."

¹ Roy O. Billett and Irving S. Starr, *Billett-Starr Youth Problems Inventory, Junior Level, and Billett-Starr Youth Problems Inventory, Senior Level*, World Book Company, Yonkers-on-Hudson, New York, 1958.

The Billett-Starr Youth Problems Inventory may be administered to an individual alone or to a group of students. The results of the Inventory may be classified as individual or group. The first use refers to the picture of each individual student in that it provides a record of the problems which he seems to have—their nature, their number, and their intensity. Such information provides the basis for individual counseling interviews. Group results may provide a school with information on the number of problems its students have and which problems are most prevalent. In either case, the teacher can find out much about her class, or about an individual in the class from the results of the Inventory.

Observation as a source of information

Observation is one of the best means of getting to know a pupil. Through its use an alert teacher, properly trained, can often find clues to the causes for a pupil's behavior. However, one should not limit his observation to the pupil. Many times the teacher can understand a pupil's problems better after observing and talking with the parent. Therefore the teacher should meet the parent early in the school year—especially if the pupil shows signs of having difficulty in the classroom or elsewhere in school. By utilizing the information gleaned through observing and talking with his pupils and their parents, the teacher can often help the young people in his charge solve their problems. Techniques for observing will be presented more fully in the discussion of evaluation and diagnosis.

Information from other teachers

The teacher who wishes to learn about his students should confer with other teachers also. Objective discussions with one's colleagues can reveal much. The discussions, however, ought to be planned; even if sometimes greatly illuminating, chance conversations are liable to be unproductive. On the other hand, planned conferences of all the teachers and guidance counselors concerned are often extremely helpful in bringing about an understanding of the personality and problems of a particular boy or girl.

The opinions and observations of faculty members can also be gathered from anecdotal reports, behavior logs, and cumulative records. The cumulative record may include much significant information because it is the repository of such records as:

1. Pupils' personal goals.
2. Records of significant experiences.
3. Records of conferences.
4. Test data.
5. Health records.
6. Family history.
7. Course records.
8. Activity records.
9. Personality ratings and descriptions.
10. Questionnaires.
11. Administrative records.

An example of a cumulative record form is shown in Figures 2 and 3. What information of value might you find in it? In what ways might the information in this cumulative record help the teacher in his teaching? What physical and health data would be helpful? Is there any information omitted from the printed form?

How might each of the records suggested in the list above be used by a teacher?

Sociograms, Social-Distance Scales, and Guess Who Tests

Reports from other teachers are helpful, but they can seldom give one all the information one seeks. Fortunately, many devices by which one may find information oneself are available. Particularly useful are the devices which show the social aspects of the class and the natural grouping and friendships of the pupils. Both the social-distance scale and the sociogram described in Chapter 7 are useful for this purpose. Another device which is helpful in determining some of the social characteristics of the class is the *Guess Who Test*. Actually, this test may be used to find out many things about your pupils—interests, friendships, hobbies, habits, problems, even emotional problems at times. To buy such a test is not necessary. A teacher or group of teachers can construct one quite easily. All one needs to do is to make up a series of statements like the following and ask the pupils to identify which of their classmates the statements best describe.

This person is always daydreaming.

This person likes to read.

This person seems to be always worrying about something.

This person is always putting things off.

An example of a very useful Guess Who Test may be found in Ruth Cunningham's *Understanding Group Behavior of Boys and Girls*.²

Information from pupil autobiography

Pupil autobiographies are another excellent source of information about pupils. From a pupil autobiography one may learn the pupil's likes and dislikes, his background, family history, and other pertinent facts. The beginning of the school year is perhaps the best time for the pupil to write his autobiography. A subject teacher may make the assignment as part of one of the pupils' regular classes, or it may be assigned by a homeroom or guidance teacher. In any case, the teachers should be careful to coordinate with the other teachers so that the pupil will not need to write more than one autobiography during a given period. The teachers should also cooperate in sharing and using the information from the autobiographies. Too often such information is allowed to stagnate in some teacher's file and never gets to the person who could use it.

The following is a suggested outline for an autobiography used in the Manchester (Connecticut) High School. Notice that the list is only suggestive. The pupils are not required to include all the items.

FRESHMAN AUTOBIOGRAPHY—OUTLINE¹

Birth—place and date

Family—mother, father, brothers, sisters, etc.

Place of birth

Age of brothers and sisters

Health

Education

Present occupations

Special experiences

Others who live in house—relationship, etc.

Home

Present location and description

Other remembered homes—location and general description

Home life

Relationship among family—likes, etc.

¹Ruth Cunningham and Associates, *Understanding Group Behavior of Boys and Girls*. Teachers College Bureau of Publications, Columbia University, New York, 1931, p. 416.

²Manchester High School, Manchester, Connecticut. Reproduced by permission.

Own relationship with family members

Social life at home

Parties

Friends to house

Personal history

Education—schools attended

Special honors or difficulties

Attitude toward school

Attitude toward teachers

Studies particularly liked

Studies particularly disliked

School activities in which active

Nonschool activities

Organizations other than school—church, clubs, scouts, etc.

Friends—few, many, older, younger, neighborhood, school

Hobbies, past and present—reading, stamps, etc.

Recreation

Travel, past and present

Sports—active part

Work at home

Work experience outside of home, past and present

Things like most to do

Things like least to do

Health

Illnesses—date, kind, length

Physical defects—poor eyesight, etc.

Personal characteristics—shy, like people, friendly, lazy, etc.

Future

Purpose in coming to school

Finish high school

Continue beyond high school

Kind of school

Occupations in which interested

Occupations would most like

Occupations would least like

Conclusions—any other things to add

Criticize the Manchester Freshman Autobiography outline. Are there any items omitted that should be included? Might some be deleted?

How might you use a *Guess Who Test*? What limitations does it have? Do you see any dangers in using it with high-school pupils? With junior-high-school pupils? Make a *Guess Who Test* of your own.

Questionnaires as a source of information

The information sought by the Manchester autobiography might also be gathered by the use of a pupil questionnaire. The Interest Finder described in Chapter 2, the Social-Distance Scale described in Chapter 7, and the Guess Who Test described earlier in this chapter are all specialized examples of the questionnaire. To prepare a questionnaire is quite simple but requires care. The author of a questionnaire merely determines what he wishes to know and then designs questions which will ascertain that information. Whenever possible, the questionnaire should call for short answers only. In fact, a checklist will probably be more satisfactory. However, the teacher should always allow the pupil a chance to comment freely on any item.

Another way to get pupils to give information about themselves is to ask the pupils to examine themselves and to report *Things to Improve About Myself*. This device can be made more effective by using a questionnaire as a framework on which to base the report.

Information from individual conferences

To know one's pupils and to provide for their needs one should have individual conferences with them. These conferences may vary from brief comments on some work or a question about one's health to long conversations about the youth's life objectives, adjustment problems, or difficulties with his school work. Conferences will take place for many reasons: to settle matters of discipline, to help pupils plan their learning activities, to help with difficult assignments, to diagnose pupil difficulties, to discuss pupils' academic or vocational goals, and many others. At times the conference can be the most important tool in the teacher's workchest.

Teacher-pupil conferences take time. Teachers may have difficulty in finding time for conferences with all their pupils. When one considers that a teacher who has five classes of thirty pupils each, teaches 150 pupils a day, one sees that time for individual conferences can be a real problem. Fortunately, the situation is not as formidable as it may seem. Many of the conferences need not be long. In fact, many of them will be very short and almost recreational in nature. Moreover, the teacher has many opportunities to confer with pupils if he will only take advantage of them. Among them are: before school, after school, between classes, during free

periods, during supervised study periods, during laboratory sessions, and while other pupils are working individually or in groups. Class time devoted to working with pupils individually can be well worth the effort. Therefore, the competent teacher tries to arrange his class periods so as to allow for such individual work.

Opportunities for becoming acquainted with the pupil are always present. The teacher is constantly learning about the pupil from observation, other teachers, other pupils, parents, and from the many devices open to him.

A tentative answer to three questions

Any discussion of knowing the pupil must boil down to three basic questions.

1. What should a secondary-school teacher know about each child?
2. Where can he find this information?
3. How can he use this information once he has found it?

Five different class discussion groups tried to answer these questions. A summary of their answers follows.

QUESTION 1. What should a secondary-school teacher know about each child?

a. Vital Statistics

1. Name, grade, course, Intelligence Quotient rating (scholastic ability), etc.
2. Health record—mental and physical (defects?)
3. Any standard test results (reading grade level, aptitude and ability, etc.)
4. Attendance record

b. Home Situation

1. Family background
2. Intrafamily relationships
3. Social contacts with community (club membership, etc.)
4. Religious attitudes and affiliations
5. Economic status

c. Social Outlook

1. Friends
2. Social activities
 - Spare time
 - School extracurricular
3. Group acceptance

d. Personal Qualities

1. Ethical standards and attitudes
2. Talents and capabilities
3. Goals and ambitions (immediate and future)
4. Interests and hobbies (in or out of school)
5. Antisocial traits causing discipline problems

QUESTION 2. Where can he find this information?

a. Records

1. Cumulative records (Permanent Record Card)
2. Test results (vocational, interest, aptitude, ability, intelligence, achievement, etc.)
3. Anecdotal records
4. Physical examinations (dental, visual, auditory, etc.)

b. Indirect Contacts

1. Home visitations
2. Reliable members of community (Boy Scout leaders, priests or ministers, police, etc.)
3. PTA contacts with parents
4. Guidance nurse or guidance counselor
5. Other dependable teachers

c. Direct Contacts

1. Personal observations during
 "bull sessions" (informal discussions)
 conferences
 special help periods
 nonschool activities
2. Conclusions drawn from:
 autobiographies
 questionnaires
 sociograms

QUESTION 3. What use can he make of this information once he has found it?

Employing the preceding data and experience the teacher can:

- a. Judge more accurately what to expect intellectually from the student and in so doing perform the following functions:
 1. Select and plan interestingly the subject matter of his course at such a level and in such a manner that it challenges the student if he apprehends rapidly, or encourage him if he learns slowly.
 2. Transfer a student to classes or courses that are at the level of his ability before there arises a critical situation where disciplinary action is needed as a result of the pupil's maladjustment.



Activity and problem solving create interest. These pupils are anxious to see the results of their experiments.

A class consists of individuals. These pupils are much alike in many ways,
but each is different.



- b. Plan a seating arrangement and class grouping that will promote the greatest social, physical, and intellectual adjustment or progress for the student.
- c. Encourage and use leadership qualities more effectively
 - (a) to further individual development and
 - (b) to secure greater class interest and cooperation.
- d. Refer to the proper authority any problems arising from health difficulties.
- e. Prevent many discipline problems and deal more intelligently with those that do arise.
- f. Encourage the student to use any special abilities through recognizing his efforts, achievements, etc.
- g. Aid more effectively in helping to guide the student's program.
- h. Assist in home and group adjustments.
- i. Integrate class as a group by preventing the formation of cliques.
- j. Stimulate interest in hobbies and outside activities.

What do you think of the answers given by these students? Would your answer to these three questions agree with theirs?

Turn back to the description of Judy. What information about Judy would help you understand her problems better? In what ways would a better understanding of Judy's problems help Miss C. in her teaching?

SUMMARY

Teaching, of course, should make up the bulk of the teacher's job. The four operations, diagnosing the learning situation, setting the stage for learning, guiding learning activities, and evaluating the pupils' learning, are the heart of the teacher's job. But they are not all of it. The teacher is also responsible for several ancillary services. Among them are such things as marking, promoting, reporting to parents, administration, public relations, chaperoning, lunchroom supervision, and the like. These are necessary parts of each teacher's employment. Because of their importance some of them will be discussed in detail in later chapters. Still, the teacher's main effort should be in his teaching. Whatever the class or activity, the teacher's mission is to bring about learning in the pupils. This is often hard work, but to the professional teacher, who knows and enjoys both his pupils and his trade, it is always full of challenge and adventure.

Many things conspire to prevent pupils' learning. Among them are the pupil's personality; the environment, both social and phys-

ical; and, most of all, poor courses and poor teaching. Particularly dangerous is teaching which overemphasizes words rather than understandings and thus leads to verbalism instead of to true learning. To avoid these blocks to learning and to provide the sort of teaching best suited to his pupils, the teacher must be well acquainted with the abilities, potentialities, goals, environmental influences, problems, and needs of each of them. The teacher can learn about his pupils in many ways, but the best way of all is to be sincerely interested in his pupils as people.

FOR FURTHER READING

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CHAPTER 2

Motivation

The need for motivation

The human mind cannot absorb knowledge like a sponge. Neither is the mind a wax tablet upon which the teacher can write. Nor is it a lump of clay which the teacher can mold into the desired shape. In order to learn, a person must do something. He may think; he may solve problems; he may read; he may listen to the teacher or to his fellow pupils; he may practice; he may do any of a hundred things; but he must do something. No one can learn for him, he must learn himself. In other words, he learns through his experiences. Each experience is an interaction with the environment. We learn from what the environment does to us and from what we do to the environment. The burnt child learns from the effect of the environment on him, but the boy who solves a puzzle learns from his effect on the environment.

Not all experiences result in learning, however. After constant repetition, for example, an experience seldom produces much learning; neither do experiences which lack meaning or in which the learner is not paying attention. How many steps are there between the first and second floor of your home or your dormitory? How many chairs are there in a row in your classroom? The chances are that unless you have paid particular attention to these details, you do not know. Any experience may result in learning, but many do not.

Since this is so, the teacher must get boys and girls to engage in activities which will result in the desired learnings. To do so he must arouse and enlist effective motives. This process is called motivation.

What is motivation? What are its implications for teaching?

"Learning takes place only through activity." What does this mean?

What are the implications for teaching?

What causes people to do things? List the reasons why you have done the more important things you have done today.

How to motivate pupils

Pupils must be motivated if they are to learn. But how does one motivate them? Unfortunately, that is not easy. No royal road to teaching exists; neither is there a sure-fire method of motivating young people. Techniques that work well in one situation may be useless in another. Incentives that enthuse some individuals in a class leave others completely indifferent. About all one can do is to point out that the teacher must try to create the desire to learn and to suggest principles and possible techniques for creating that desire. Therefore, in the next few pages we shall examine six principles of motivation:

1. Take advantage of the pupil's present motives.
2. Make the potential learnings seem worthwhile.
3. Help the pupil establish suitable tasks and objectives.
4. Keep up the pace.
5. Develop a receptive mood in the learner.
6. Cultivate in the learner ideals and attitudes conducive to learning.

UTILIZING PRESENT MOTIVES

The importance of interest

We can persuade pupils to desirable activity by taking advantage of the motives they already have. A particularly profitable way to do so is to utilize pupils' present interests. Interest is absolutely necessary if learning is to occur efficiently. The doctrine of interest does not advocate that the whim of pupils should determine the curriculum. It does advocate that where possible the teacher use pupil interests already established. If the pupil has no interest, the teacher must somehow create it, or the lesson will fail. It is difficult for us, as we get older, to realize that the goals of youth are not the same as those of adults. We are sometimes shocked to find that what we feel ought to be of the utmost intrinsic value to all youth, seems

to be quite worthless in their eyes. Young adults seem to find it particularly difficult to realize that what is intensely interesting to them may not find a single response in a group of fifteen-year-olds. For this reason the beginning teacher should make a great point to find out the interests, attitudes, ideals, and goals of his pupils. Once he knows what his pupils think is important, he can adapt his motivational techniques accordingly. This information can be gathered by using the devices and techniques discussed in the previous chapter. In addition, the teacher may use devices designed specifically for the gathering of information about pupils' interests.

An example of such a device is the interest inventory. Through the use of such standard instruments as the Kuder Preference Inventory or the Bell Interest Inventory, the alert teacher may gain insights into the reading interests and hobbies of his pupils.

Similar instruments may be devised by teachers quite easily. For example, one can build an "interest finder" by simply preparing a questionnaire of items designed to find out what the pupils' interests are, such as:

What is your favorite way of killing time?

If you could do anything you wanted to do, what would you want to do most?

What kind of movies or television programs do you like most?

Using pupils' attitudes and ideals

Among the motives which pupils bring to school are their ideals and attitudes. In so far as he can, the teacher should attempt to harness such attitudes as cooperativeness, neatness, industry, fairness, courtesy, patriotism, and honesty, and utilize them in his teaching. A young person assigned to a group project role he does not particularly like might do his job well because the teacher has appealed to his cooperative attitude. Perhaps you can think of examples in your own school life in which you have performed downright distasteful tasks simply because an attitude or ideal told you that this was the thing to do under the circumstances.

Harnessing the natural motives

Every boy and girl comes to us with certain basic drives. These natural motives are often more powerful than any incentive the

teacher can devise. The competent teacher considers them and uses them in his teaching, if he can. If he cannot utilize these natural motives, he at least strives to adapt his classwork so that it seldom conflicts directly with them.

One winter day an English teacher suddenly found the attention of his class leaving him. Something outside the window had stolen it away. A little irked, he looked out to see what the matter was. No wonder the class was diverted. A big gray cat was stalking a rabbit in the heavy snow. Stealthily, the cat sneaked up on the rabbit and just as he seemed to be within range and ready to pounce on his prey, the rabbit hopped out of reach. Undaunted, the stubborn cat tried again and again, but the deep snow prevented him from closing in.

What does a teacher do in such a situation? Few English literature classes can compete with such real life melodrama. In this instance, the teacher allowed the class to watch the struggle for a while and then dispatched someone to chase the animals away—ostensibly to save the life of the rabbit, although after a few minutes of watching it was obvious that the rabbit was in no danger. By doing this, the teacher avoided competing with the pupils' natural curiosity. Perhaps he could have harnessed this curiosity and interest by diverting the class to a discussion of the incident and tying it up with literature—plot, incident, suspense, conflict, characterization—or possibly he could have encouraged pupils to turn the incident into a bit of creative writing. Certainly he was wise not to attempt to continue with his original plan in the face of this strong natural motive.

The English teacher's predicament, although an actual incident, was very unusual. Perhaps you can think of a more commonplace example of natural motives interrupting the normal course of learning. Have there been any instances in your college classes when the teaching has been hampered by the natural motivation of the students? What, if anything, did the instructor do? What might he have done?

Capitalizing on pupil curiosity

People are naturally curious. Watch a little child examine things. Listen to him asking questions: Why? Why? Why? This curiosity abides in adults also and it is probably just as strong. Witness the crowds that gather whenever there is an accident. If teachers can capitalize on the curiosity of youth, the youngsters will do their

school work more eagerly because they want to find out. This is an important type of motivation.

An example of a technique which uses the drive of curiosity is suspense. The pupil's interest is caught and held because he wants to know. Everyone has sat through poor movies and bad television shows because he wanted to find out "who done it." His curiosity was whetted, and because the author kept him in suspense, he stayed on to the end. Teachers who can create a feeling of suspense in the classroom can also arouse the pupils' curiosity and hold their interest.

A student teacher in a general science class once performed an experiment in which he attempted to demonstrate the power of air pressure by creating a vacuum in a large can. He first talked to the pupils telling them what he intended to do, and asked them what they thought would happen when he created the vacuum. Several theories were proposed, of course; among them the theory that the pressure of the atmosphere would "smash the can." "All right," he said, "let's see if the atmosphere can crush the can." He then heated some water in the can filling it full of steam. Capping the steam-filled can he said, "O.K., now let us see what happens." An air of intense expectancy hung over the classroom as the eighth-graders stared at the can. Suddenly one yelled, "There it goes," as the can slowly started to crumble. In a few minutes the class was off on a lively discussion of what had "smashed the can." By harnessing the natural appeal of curiosity, through the medium of suspense, the teacher had aroused the class to productive activity.

Social approval, self-esteem, and the desire for success

Everyone wants to feel that he is important and respected by his friends and associates. This is particularly true of adolescents who often will do almost anything to win approval. All of us want to be proud of ourselves. We desire and need success in order to build up our self-esteem and the approval of the group. No one wants to be a failure. For this reason the competent teacher gives his pupils plenty of opportunity to preen their feathers. He does his best to find something for which to praise even the dullest of them. Recognition of one's success by others is most enjoyable. When this recognition takes a tangible form, it is usually even more enjoyable. Quite often, praise and rewards spur us on to heights when we might otherwise rest on our laurels.

Need for security

Teen-agers particularly want security. They need to be free from fear. This desire comes from the basic need for self-preservation. Any threat to a young person's security makes learning a more difficult problem.

For this reason one should probably avoid using fear as a motive, although it is one of the most powerful of them all. Fear causes us to do more things than we realize. Certainly it can cause us to do things we believed we could not do. The story is told that in World War II, long before the days of the four-minute mile, a Dutch runner ran the mile in well under four minutes in his street clothes and boots as he escaped from a German prison camp. The impetus of fear has caused many extraordinary feats of strength and daring.

In spite of its power the use of fear as a classroom motivational technique is not recommended. As well as being a motivating force, fear also is disorganizing. The frightened person cannot think well. When intensely afraid he may become completely disorganized. Constant worry, a milder form of fear, may lead to mental and emotional idiosyncrasies if not to actual illness. Youths have fears and worries enough without our creating more. Fear should be saved for such important things as life and death situations, e.g., preventing young people from driving too fast.

What does psychology tell us about the effect of praise, reproof, rewards, and punishment upon learning? What are the implications for teaching?

Should emulation, competition, and rivalry be used to motivate classroom learning? What are the advantages and disadvantages of each?

Evaluate the following as motivating techniques: sarcasm, ridicule, fear.

Desire for adventure and action

Paradoxically, the need for security is accompanied by a desire for action, adventure, and excitement. This often causes youngsters to take chances which seem to belie their desire for security. Often the adventurer finds his security by seeking his adventure in groups and by soliciting the approval and admiration of his peers for his adventuresomeness. The teacher would do well to feature activities

and materials which have plenty of excitement and action at least part of the time.

Desire to play and have fun

Enjoying oneself is a prominent goal in every person's life. We all need to play and amuse ourselves—even the hypochondriac who enjoys poor health. This motive is closely akin to the need for action, adventure, and excitement. The ordinary class abounds with opportunities to use games—an example is the use of pseudo-baseball games in drill activities. Another example of making a dull activity fun was that used in a mid-term test in a college course in German. The test was given just prior to the annual fall dance weekend. The test consisted largely of translating a hilarious account of the gay *Tanzwoche* to come and all the fun the *Mädchen* and *Knaben* were to have. The test was fun and many of the students found it enjoyable—if a mid-term test can ever be described as enjoyable.

The need for friendships

Youths are gregarious. One of the most powerful natural drives is the desire for friendship. Any attempt to keep boys and girls quietly working by themselves in a crowded classroom for long periods of time is against the laws of nature. Capable teachers will usually refrain from making such periods overly long and will not be too harsh on boys and girls who feel the need for conversing with their friends. Youth's gregariousness and friendships can be of considerable help to the able teacher—especially in grouping and in conducting group activities. Means of determining and profiting from natural groups and friendships in one's teaching are explored further in Chapter 7.

To have friends is exceedingly important for adolescents but most important of all perhaps are the heterosexual friendships which begin to form at this stage of life. Sex and the desire for one's own home are basic drives. Their power and importance should not be underestimated. It is too much, for instance, to expect a pretty girl to concentrate on Boyle's Law when she is developing a pimple on the end of her nose the day before the junior prom.

Heterosexual interests also have some bearing on the type of subject matter and activities selected for a class. This drive does not

SECONDARY SCHOOL TEACHING METHODS

play the same role in the lives of seventh-graders that it does in the lives of twelfth-graders. Romantic literature may have little meaning to a seventh-grade boy, but it may be of major importance to his older sister. The teacher should bear in mind the sex and age of his pupils in selecting the activities and materials of instruction.

MAKING LEARNING WORTHWHILE

The importance of pupil values

Once a pupil is convinced that learning is vital he is usually willing to work to acquire it. It is well known that some pupils see little value in much of their school work and find it difficult to arouse much enthusiasm for their tasks. The teacher should try to make his classes seem worthwhile to all of his pupils. Unless the pupils think their lessons are worthwhile, their participation will be only grudging, no matter how valuable the lessons really are.

Teacher attitudes and motivation

If a teacher wants his pupils to feel that the learnings of his course are valuable, he must feel so himself. The teacher who is sincerely enthusiastic about his subject is a much better salesman than the teacher bored by his own course. Some teachers' enthusiasm is hard to resist. Before the pupils realize it they begin to catch the teacher's spirit—sometimes in spite of themselves. Of course, enthusiasm alone will not fire up every member of the class, but it helps. No one should teach a subject he does not like.

One of the most successful teachers of English the authors ever knew was a literature enthusiast. One had only to sit in his class a minute to know that literature was important to him. His enthusiasm was infectious. It was hard to leave his classroom without feeling the fascination of literature. Moreover, he had the habit of selecting things to read and handing them to you with such comment as, "You know here's a story I bet you'll enjoy. It is about Why don't you read it and tell me how you liked it?" Even the supervisor was not immune from his blandishments; frequently he left the classroom with an assignment. This teacher's eagerness and enthusiasm trapped pupils into wanting to read literature.

This same teacher also used effectively a technique which combined his enthusiasm for literature with an appeal to curiosity. With

all the proper histrionic effects he would start to read a story to the class. Then, at a crucial point, he would stop to ask questions which could be answered only by completing the story. Often the pupils could hardly wait to turn to their books to find the answers.

Immediate values and deferred values

If a pupil really wants to learn something, he will usually attempt to learn it at once. If he thinks that he would like to know something about the matter when he grows up, he is apt to turn to other problems which seem more immediate to him. Whenever possible, the teacher should make the pupils aware of the immediate values of his lessons if he hopes to raise their motivation to a high pitch. This can often be done by centering the classwork around everyday concerns of pupils, by including current issues in the school and community, by pointing out how the classroom learning may be used in other classes and activities, and by consciously attempting to tie up the lessons with pupils' present attitudes and interests. For example, in a mathematics class one might use graphs to illustrate problems being studied in the social studies class, or the study of percentages might be related to the standing of major league baseball teams.

Something suitable for everyone

What we know about individual differences tells us that boys and girls are not all interested in the same things. This variety may give spice to life, but it also may complicate the motivating of a class of adolescents. We want our classes to seem worthwhile to the pupils in order that the pupils will work at high levels. But what one pupil finds worthwhile another may find a waste of time. What is the answer? Obviously the way out is to provide sufficient types of activities and materials so that everyone finds something interesting and worthwhile.

Pupils' notions of what is worthwhile are, of course, constantly subject to change. Since this is true, teachers can frequently convince pupils that their assignments are truly worthwhile. A simple device is to present them with convincing arguments. Merely stating that so and so is important, or will be important, is not enough; the teacher should be prepared to show why. For example, one day a young beginning teacher asked his supervisor what he should do

when his seventh-graders asked him why they should learn the names of the different climatic zones in their geography. "Why, tell them, of course," was the answer. "Yes," he said, "but I can't think of any reason for their learning them myself." If the teacher does not know why a certain learning is worthwhile, how can he expect a boy or girl to make the effort necessary to learn it?

How would you have answered the seventh-grade geographers?

Can you justify teaching your major fields?

Go through a textbook you might use in your teaching. How can you make this material seem worthwhile to a group of teen-agers? Why is it worthwhile?

Intrinsic and extrinsic values

Any particular learning seems worthwhile to a pupil if it has either intrinsic or extrinsic value for him. If the learning is valuable enough to cause the pupil to act, he is acting because of its intrinsic value. This is intrinsic motivation. An example of intrinsic motivation is learning to drive a car. Most young people learn to drive because knowing how to drive has intrinsic value to them.

Some learnings seem to have no intrinsic value to the pupil but they have an extrinsic one, i.e., the learner sees relatively little value in the learning itself but does see value in what the learning may get him. An example of this may be the case of the youth who learns geometric theorems because he wishes an A in the course or because his father has promised him a prize if he learns them. Here the goal is not the learning itself but something which can be obtained through the learning. Such goals are called incentives. They are really ulterior motives for undertaking activities otherwise not worth doing. Ordinarily, we should prefer that boys and girls do their school work because of its intrinsic value to them. When this proves impossible or impractical, the teacher should use incentives which will create the desired response.

Pupil-teacher planning and motivation

What a person elects to do himself usually interests him more than something imposed by someone else. At least, he is likely to think it is more interesting and is, therefore, more willing to start it. Consequently, boys and girls who plan their own activities may begin them more willingly than the pupils who do not. This gives

the teacher a considerable advantage. If he can capitalize on this start, quite often the enthusiasm will carry on throughout the study of the topic or activity. The capable teacher will encourage pupil participation in the selection of topics and activities in order to capitalize on their motivational value.

ESTABLISHING SUITABLE OBJECTIVES

The need for an objective

If lessons are to seem worthwhile, the teacher should have a definite goal. Furthermore, the pupils should know approximately what this goal is and why it is important. To become enthusiastic about a lesson when you don't know what you are about to learn nor why you should learn it is most difficult.

As a matter of fact, the pupil always participates in the selection of his own objectives. Everything one does is instigated by the occasion, by self-instruction, or by instruction from another. As a result of one of these influences, or a combination of them, the pupil elects to do something. That is to say, he establishes a task. This task is his objective. It may be considerably different from what the teacher had in mind. However, the teacher's role is to provide situations in which the pupil will select, or accept, tasks which will help him toward the learning desired. The teacher can do so through the use of directions and assignments.

The assignment as a motivating device

A famous professor of education frequently remarks that boys and girls usually would be glad to do their school work if they could only figure out what the teacher wanted them to do. There is perhaps a germ of truth in this statement. Most of us have been in classes in which we did not know what to do. This fault is all too common. When the teacher finds his pupils are not doing their assignments but instead are crying, "I did not know, I had no book," and the like, he should check his directions. As often as not the fault lies in the assignment. If teachers hope to keep pupils working, they must be sure their assignments are definite, the directions clear, and the materials available.

In the past the assignment has been almost synonymous with homework. In many classrooms, even today, the assignment consists

A variety of learning activities

Variety is the spice of life. Although it is probably true that too much variety in method and activities may sometimes confuse the learner, it is just as true that the same activity repeated endlessly usually bores him. In order to keep interest at a high level, the teacher should change his methods from time to time. Especially helpful are such interest-catching devices as vivid illustrations, audio-visual aids, field trips, demonstrations, dramas, and television programs.

Lively activities rather than passive activities

Pupils are naturally active. They do not relish sitting still all day. They enjoy doing things; activities in which they can actively participate interest them. Moreover, once they are actively participating, their interest is much more easily kept at a high level. Witness the difference between the lecture and a workshop or laboratory. Quite often, the very persons who anxiously wait for the bell in lecture classes do not know when to stop in a workshop or laboratory situation. To keep motivation high, teachers should use such activities to the optimum.

Why is it that youngsters in laboratory-type classes seem to be more interested in their studies than pupils in other classes?

What activities might you use to keep a class in a subject in your field moving rapidly?

Some authors say that the lecture should not be used in secondary schools. What is your opinion? Why?

CREATING A RECEPTIVE MOOD

A principle of salesmanship

That a customer must be put in a receptive mood is almost axiomatic among salesmen. As Risk has suggested, it is not often that we find salesmen who try to sell their products by insulting the customers.¹ So it is with teaching. What we are after is to get learning across to the pupils. To make learning or the learner disagreeable is

¹ Thomas M. Risk, *Principles and Practices of Teaching in Secondary Schools*, Third Edition, American Book Company, New York, 1938, pp. 324-327.

unrealistic. Maybe making your subject pleasant seems to be sugar-coating it. If so, remember that it is the learning that counts. Any method or device, within reason, which you can use to expedite learning is legitimate.

Quintilian, a Roman teacher of rhetoric, once remarked that harsh discipline raises resentment which is transferred to the subject matter. This is true. Therefore, for the sake of good motivation, harsh, restrictive, disciplinary measures, unpleasant teaching methods, and anything else which may cause dislike and antagonism should be avoided. Remember that you are trying to sell a valuable commodity. People who dislike you, your product, and your store will not buy from you. Of course, punishment can also motivate, but it should seldom be used for classroom motivation because it tends to create an atmosphere of surly, sullen repression. In such an atmosphere pupils' work is usually half-hearted. Since the object of teaching is learning, we need to find a more efficient motivating device than punishment. Still, boys and girls must learn that if they misbehave or neglect their work they must suffer the consequences. Occasionally, the teacher will have to use negative measures to make these points clear. Poor papers should be redone. Neglected responsibilities should lead to loss of privileges. Undone work should be made up—perhaps in after school hours or detention periods, or even, on occasion, next term as a repeater. Such treatment should always be fair, just, reasonable, and preceded by fair warning.

"The Pleasant House"

One method of placing your customers in a receptive mood is to provide a pleasant environment. It is axiomatic that boys and girls (and for that matter men and women) work better in pleasant surroundings. A dark, dirty, repressive atmosphere seems to hold back the average person. In a bright, cheerful atmosphere pupils are more likely to become interested in their school work and perform it conscientiously. A bright atmosphere tends to remove the tensions which so often hold back the learning process. Therefore, the teacher should strive for a pleasant classroom. It may be that he can do little about the classroom's decor, although he can usually help that considerably, but he can do much for the spirit of the pupils by eliminating overseriousness in the classroom. Learning is not necessarily solemn. People learn better in a happy frame of mind. Laughter, fun,

humor, cooperation, pleasantness, and politeness all go to make the classroom a happy place. Vittorino da Feltre, the great Renaissance schoolmaster, called his school "The Pleasant House." As part of our motivational technique we should strive to make our schools "Pleasant Houses."

CULTIVATING DESIRABLE ATTITUDES AND IDEALS

Earlier in the chapter an attempt was made to show how one might harness the pupils' attitudes and ideals. Fortunately for the teacher, attitudes and ideals are acquired, or learned, characteristics. Since this is so, it is possible to teach pupils new attitudes and ideals and change old ones. Teachers have frequently been able to convince pupils that what seemed to be a complete bore is really fascinating. Therefore, the teacher should do his best to create and cultivate those attitudes and ideals which foster learning.

What pupil attitudes and ideals would be desirable aids to classroom motivation? How might you use them? How might you develop them?

A certain teacher says that it is impossible to teach her pupils anything because of the no-failure policy of the school. The supervisor says that the teacher is merely excusing her inability to make her teaching interesting. React to these statements.

Prepare a list of motivational devices for possible use in a class you expect to teach.

SUMMARY

Motivation is too important in the learning process to be slighted. Each teacher has a valuable commodity to sell to a sometimes unwilling clientele. If one can motivate pupils through positive means, the chances of successfully teaching them will be greatly enhanced. Unfortunately, such motivation does not come naturally, although the teacher should utilize the pupils' present motives as much as possible. Frequently the teacher will have to convince the pupil of the worth of his wares and create an inclination to buy them. For this purpose, perhaps his best sales device is a clear, definite, reasonable assignment. If one's classes proceed at a lively pace, in a friendly atmosphere, one can expect relatively little "customer

resistance." And if, in addition, one engenders and cultivates among his pupils attitudes and ideals favorable to learning, his efforts should be well rewarded.

FOR FURTHER READING

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CHAPTER 3

Provisions for individual differences

Individuals differ in a multitude of ways—in physical make-up, in interests, in ability, in aptitude, in home background, in experience, in prior training, in social skill, in ideals, in attitudes, in needs, in vocational goals, and so on *ad infinitum*. This is an inescapable fact of human nature—a fact fraught with profound implications for the teacher. Because of these differences, to treat individuals as though everyone were just alike simply will not work. Somehow, some way, teachers must adapt their teaching to individual differences.

Not only are pupils different, but each learns in his own way and at his own rate. No two persons ever learn exactly the same concepts from any learning situation. Nor do any two persons ever develop exactly the same method and degree of efficiency. Each individual's learning is shaped by his interests, his physical and psychic make-up, his past experiences, and his goals for the future and so differs from that of anyone else. Teachers should capitalize on these differences and make them a means of furthering learning.

Observe the members of your own class. In what ways do they seem similar? In what different?

If possible, visit a junior-high-school class or senior-high-school class. What evidence of individual differences do you find?

A description of two boys

The following paragraphs describe two boys. Both are tenth-graders in the same English class. Each of them lives in the same neighborhood, has approximately the same socio-economic status, is of Italian parentage, and belongs to the same church. Yet they are completely different individuals.

Pete is a tall, thin boy. He looks as though he has not had a decent meal in a long time. His constant lack of energy seems to confirm this look. This may also explain his complete lack of interest in sports of any kind. He is exceptionally interested in music and plays the piano well. In fact, for the past few months he has been playing dinner music at a downtown restaurant as one of a trio. He is talented in other ways also. His I.Q. shows him to be well into the genius class. Yet his classwork is very poor; he does little or nothing in school. For several weeks he has not turned in a respectable paper. He has read few, if any, of the stories assigned in the study of the present topic—short stories. Still, he seems to have read recently many of the current best sellers and quite a number of biographical works and popularized histories. Works having to do with politics and politicians seem to have a special appeal to him. He takes part in no school activities of any sort other than those assigned in class. He has few friends and keeps pretty well to himself, perhaps because he is inclined to give himself airs and to poke fun at the efforts of the other "kids." In spite of an air of sophistication one gets the impression that this is an unhappy youngster whose many talents are going to waste.

Steve is about medium height and inclined to be a trifle stocky. His skin is dark and from time to time breaks out in a rash of pimples which annoys Steve somewhat. In the past he has been the victim of a serious speech defect. He still stammers badly at times, but his parents have been sending him to a local speech therapist who has helped him greatly. In spite of his disability Steve is one of the most popular boys in school and something of a ladies' man. He is president of his class and active in myriads of other activities. His real hobby is sports, although he is not especially good in them. Still, he is captain of his intramural basketball team. His lack of skill is made up for, at least in part, by his aggressiveness. He is about the scrappiest player in the league. He is one of the varsity team's most

ardent supporters. Probably he will be the varsity manager in his senior year, since he is leading all present contenders for that position.

Steve's great virtue, from the teacher's point of view, is his dependability. Rarely does he miss an assignment. Although he is only slightly better than average intellectually, he consistently does better than average, if not outstanding, work. His regular reading consists of popular magazines and the newspaper. Sometimes you may find him engrossed in a book of science, *Popular Science*, or a work of science fiction. Science is his best subject and we hear that at home he spends considerable time "fooling around" with a science hobby kit.

These two boys are individuals. Their personalities differ in many ways. The competent teacher tries to adapt his teaching so as to turn these differences to his advantage whenever possible.

Would you think it wise to try to teach both these boys the same material in the same way?

A famous professor of education says, "We should not have a standard; we should have standards." What do you think he means? Is it possible to require one pupil to do more or better work than another? How would you go about implementing the professor's statement?

Providing for differences in the classroom

In the ensuing pages we shall attempt to indicate some ways in which teachers can take advantage of individual differences in the classroom and make the instruction more profitable. This discussion is predicated on the assumption that adequate provisions for individual differences must be based upon thorough knowledge of the abilities, interests, ambitions, problems, and other characteristics of the pupil as outlined in the foregoing chapters.

DIFFERENTIATING THE ASSIGNMENT

The differentiated assignment

As we have seen in the preceding chapter, an assignment consists of activities laid out for the pupils to do. A differentiated assignment is a class assignment which allows different pupils to do different things during the period covered by the assignment. Many types of differentiated assignments can be made. Ordinarily, the differen-

tiated assignment is a long assignment covering a period of several weeks. However, it can also be very short.

Differentiating the length or difficulty of the assignment

Teachers often arrange their assignments so that slow learners will not have to do quite as much as their more able colleagues. In the sample assignment on page 45 the teacher attempted to do this by assigning group 3, the fast group, considerably more work than group 1, the slow group. In a mathematics class he might have assigned five problems to the slow pupils, eight problems to the average pupils, and ten problems to the fast pupils. In the sample assignment the work assigned to the groups also varies in difficulty. One group is reading in what the teacher considered a "hard" eighth-grade book; another, an "easy" eighth-grade book; and the third, a sixth-grade book. All are studying about the same thing but at different levels of difficulty. In a mathematics class the teacher could have assigned more difficult problems to the better pupils. In actual practice many teachers vary both the amount and difficulty as in the sample assignment.

Differentiating the type of work

Not only the amount but the type of work should vary from pupil to pupil. The pupil who thinks best with his hands should be allowed to create with them. The bright pupil should be encouraged to undertake minor research problems. Thus, by varying the type as well as the amount of work, the teacher can provide tasks suited to the pupil's abilities and interests. In this way the skillful teacher, by capitalizing on the pupil's interest and ability, may be able to enlist his enthusiastic cooperation and encourage him to learning unheard of in dull humdrum classes. In order to do this, he must accept different means of expression and different indices of growth.

Many youngsters have unique abilities which can make any class more profitable and enjoyable. Every youth has some contribution to offer. Each should be encouraged to make his special contribution. It may be that the socially promoted boy who reads at an abysmally low level can and will, if encouraged, draw illustrations for the novel that is being read, or can build or help build a setting for a dramatization for part of the plot. Another youngster or group of youngsters more literarily inclined might write the script for

the dramatization. Others neither artistic nor literary might be the actors. Everyone should contribute. If pupils are encouraged to participate after their own fashion, then the class will be fuller and more meaningful and learning will be more likely to go on apace.

For example, not everyone needs to express his understanding of the ante-bellum South by writing essays and answering questions about it. Many other media are available. Talented youngsters might well produce illustrations of life in the South; a boy interested in mechanical drawing might draw a layout of a plantation; a girl interested in homemaking might investigate the menus of the era, or run up a costume appropriate to the period; a young engineer might construct a cotton gin; a young choreographer might score and dance a ballet in the *Gone With The Wind* motif; a poet might contribute some lyric poetry, perhaps an ode or two.

Also pupils with special interests might read and investigate in their fields of interest. In a science class the musically inclined might want to investigate why different tones result when varying lengths of catgut are scraped by horsehair, or why lightly scraping the strings of a violin can be heard all over the concert hall. In a mathematics class a pupil interested in design might solve problems having to do with the mathematics of design.

The teacher who would make the most of the potential of any class must permit boys and girls to learn through various media. The possibilities are limited only by the media available and the various talents of the pupils. However, the teacher must guard against the danger of encouraging boys and girls to participate in activities which in no way contribute to significant learning. If a boy or girl is to spend considerable time creating a dance in connection with the study of the ante-bellum South, that activity should result in real learning about the South. If it does not, that activity has no place in the classroom.

Accepting different evidences of accomplishment

If pupils are encouraged to learn through many different media, the teacher must accept different types of growth as evidence of achievement in the course. Certainly the essential learning in any lesson should be common to all the pupils, but the teacher cannot let the matter rest there. He must also accept various kinds of evidence of growth. The youngster who has increased his stature through

creative writing, the girl who has grown through art, and the boy who has increased his technical skill through building models have all grown in desirable ways. All pupils do not acquire identical learning in any unit. The teacher should recognize that various types of growth are desirable and therefore should accept them as evidence of progress in the course.

Differentiating the work completely

At times it is desirable to assign to certain pupils work that is entirely different from that of the rest of the class. An example of this is the case of Pete, the brilliant youth described earlier in the chapter who had been doing such poor work in his tenth-grade English class. Upon examining the situation, the teacher realized that the boy was finding the assignments too easy. He was bored. To remedy this, the teacher excused the boy from the regular assignment and substituted one he had had in college. Rising to this bait, the boy accomplished this assignment in a fashion acceptable for any college introductory literature course. By substituting an entirely different assignment, the teacher was able to inspire this boy to do work well beyond the level of his grade. This is an excellent way to help a gifted youth. If a pupil is competent in grammar and knows to perfection the parts of speech the class is presently studying, he should be studying something else. Why not put him to work on a problem in literature, or something else worthwhile? It does not matter particularly what the pupil does as long as it results in valuable learning.

A sample short differentiated assignment

The following short differentiated assignment was prepared and used by a beginning teacher while teaching "The Westward Movement" in an eighth-grade American history class. In this class the teacher divided the pupils into three groups on the basis of their presumed ability.

A SHORT DIFFERENTIATED ASSIGNMENT

GROUP 1

Reading Assignment *Your Country and Mine*, pages 36-41:

1. Form into assigned groups.

2. Select one member to serve on each committee:
 - a. Bulletin Board
 - b. *Who's Who in American History*
3. Choose one of the following assignments:
 - a. Write a story about Daniel Boone.
 - b. Draw a picture of Boonesborough in its early days.
 - c. Draw a map showing how Daniel Boone got to Boonesborough (page 43).

GROUP 2

Reading Assignment *Your Country's Story*, pages 160-163:

1. Form into assigned groups.
2. Select one member for each of the following committees:
 - a. Bulletin Board
 - b. *Who's Who in American History*
3. Choose one of the following assignments:
 - a. Make a report on the nature and characteristics of the Indians as seen by the early settlers in Kentucky and Tennessee.
 - b. Make a map showing the different routes to the West.
 - c. Write a report telling why the Ohio Valley was so attractive to early settlers.

GROUP 3

Reading Assignment *This is America's Story*, pages 223-231:

1. Form into assigned groups.
2. Select one member for each committee:
 - a. Bulletin Board
 - b. *Who's Who in American History*
3. Choose one of the following assignments:
 - a. Prepare a short report on the history of political parties in the United States.
 - b. Make a report on Hamilton's policies in solving this country's financial problems.
 - c. Write a short report explaining why Jefferson and Hamilton had different views on many things.
4. Answer completely Check-Up Questions 1-3 (page 227) and 1-4 (page 231).
5. Give a brief account of the Northwest Territory and of its importance in the development of the West.

In what ways has this beginning teacher attempted to differentiate the assignment? How successful do you think this assignment would be?

How would you go about preparing a differentiated assignment for a course in your major field?

OTHER MEANS OF PROVIDING FOR INDIVIDUAL DIFFERENCES

Accelerating the brilliant pupil

One way to help the brilliant pupil make the most of his talent is to let him proceed through the course more rapidly than his classmates. For example, in a certain Latin class the teacher arranged the classwork so that the brilliant pupils could do most of the work independently at their own speed without waiting for slower classmates to catch up. One brilliant girl completed the year's work early in April and was well into the next year's work by the end of June. The teacher had made this acceleration possible by preparing units for the entire year in advance. When the pupil had completed one unit, she went right on to the next one.

In such teaching, since the accelerated pupil will finish the regular course work before the end of the school year, the teacher needs to provide additional work for the pupil. In the example cited, the pupil went on to units in the next year's work. In other instances one might prefer that the pupil study more deeply certain aspects of the present course or aspects of the course ordinarily omitted because of lack of time.

What practical problems arise from allowing a pupil to go on to the next year's work? How might these problems be minimized?

In the example cited above, the accelerated pupils worked individually almost entirely. Is this a good practice? How might one accelerate pupils in a class without making the work entirely individual?

Homogeneous groups in the classroom

Teaching is usually easier when the range of differences among pupils in a group is relatively small. In a typical group of pupils, however, the range of differences is usually quite large. This fact should not discourage teachers because the range can be reduced by homogeneous grouping, i.e., by putting pupils of similar abilities, interests, ambitions, or other attributes together. Quite often school administrators use homogeneous grouping throughout entire schools. Similarly, teachers can group their pupils homogeneously within a class. This can be accomplished in several ways, such as:

1. Placing the slow achievers in one group, the average achievers in another, and the rapid achievers in a third.
2. Placing pupils into groups according to their interests.
3. Placing pupils with similar interests and similar goals together to solve a particular problem or to do some sort of research.
4. Placing pupils into groups according to special needs.

Certain critics have objected to the use of homogeneous groups for several reasons. Many experienced high-school teachers claim that to teach more than one group in the same room is impossible or too difficult. Yet anyone who has watched a skillful teacher conduct a one-room school or a primary room knows that this is not so. Teaching several groups at once is hard work, but then, good teaching cannot be accomplished without work. Actually, using groups is often easier than attempting to teach the unready something they cannot learn or the uninterested something they will not learn.

A more serious objection to homogeneous grouping is that some teachers believe it to be undemocratic. This objection probably stems from a misunderstanding of the principle that "everyone is created free and equal." These critics seem to believe that by placing pupils into homogeneous groups we are depriving them of their rights of equal treatment. However, the democratic concept is that everyone has an equal opportunity to make the most of his talents. Therefore, the truly democratic teacher recognizes the differences in individuals and tries to make the most of them.

Another serious objection is that homogeneous grouping labels some pupils as inferior. Although the danger is real, it is probably not as great as one might expect. The pupils know which of their classmates are bright and which dull academically. Often in grouping we are merely recognizing what everyone already knows and accepts. The danger of developing a caste system may be avoided by seeing to it that the membership of the groups changes from time to time, that many types of groups are used so that the pupil is not always in the same group, and that the pupil has ample opportunities to work as an individual and as a member of the entire class. To divide a class into three or four ability groups and to keep these groups together constantly for an entire term is malpractice.

If you were to divide your class into groups, what basis for grouping would you use? How would you go about grouping the class? How long would you keep the same groups?

How would you prevent a caste system from developing as a result of homogeneous grouping?

Conducting the class as a laboratory

A profitable way to provide for individual differences is to conduct the class as a laboratory. Here the pupils can work on their various tasks individually or in small groups under the teacher's guidance. In such a laboratory a committee might be working in one corner of the room preparing a dramatization, in another corner another group might be preparing a report. At their desks individual pupils might be working on "research projects." Others might be reading required or optional readings. In the rear of the class a pupil might be putting the finishing touches on a model to be presented and explained to the class. Around the teacher's desk another group might be working with the teacher in planning a group project.

As the pupils work at their tasks, the teacher helps and guides them. Among the many things he can do to help them are:

1. Observe pupils to diagnose poor study habits.
2. Show pupils where to find information.
3. Show pupils how to use the tools of learning.
4. Clarify assignments.
5. Show the pupils how to get the meat out of their studying.
6. Help pupils form goals for study.
7. Help pupils summarize.
8. Point out errors and incorrect procedures.
9. Suggest methods for attacking problems.

Laboratory classes of this sort allow the freedom necessary for different pupils to work at a variety of tasks at speeds suitable for them. To a lesser degree supervised-study periods in which the pupils work on their assignments under the teacher's supervision and guidance can provide the same freedom.

Individualizing instruction

Whether he uses the laboratory approach or not, each teacher must somehow find time to work separately with each pupil. This does not usually take as much time as one might think. Many pupils need a minimum of guidance. If they are provided with clear instructions they can often work alone for considerable periods.

The most common type of individualized instruction is the

special help given to certain pupils. Teachers have always helped boys and girls who were having trouble with their studies through extra help after school, during conference periods, in study halls, and in class. No matter what method of teaching is used, the teacher should provide for special help for some pupils.

In spite of the value of special help, it alone cannot meet the demands of individual differences. As far as possible the teacher must provide instruction designed for the individual pupil. This can be done most easily by means of the classroom laboratory and the differentiated assignment.

The use of pupil monitors

Talented boys and girls can often help other pupils who are having difficulty. This technique can be quite beneficial if done carefully. It gives the teacher some assistance so that he can find time to do more individual teaching. It teaches the gifted youngster how to share his talents and to communicate his ideas to others. It helps foster the idea of service. Most important of all, it helps the talented youth to learn the subject more thoroughly. Moreover, youths frequently learn more readily from their peers.

This is an excellent method but, if not used judiciously, it can be dangerous. First, the teacher may call on a brilliant pupil to do teaching which the teacher should do himself. This could result in the exploitation of the brilliant youth, while the dull pupil is deprived of the professional help he deserves. Then, too, one must avoid holding back the gifted youth. It is not right for the bright pupil to mark time repeating the same material when he might be going on to more advanced study. To help the brilliant youths make the most of their talents is one of the teacher's most important tasks. He must not sacrifice them to help the mediocre. Used with care, however, the practice of having bright pupils help the slow ones is an effective method of meeting individual differences.

How can pupils help each other? How can such help be used to provide for individual differences?

How can a teacher of a large class find time to work and confer with individual pupils? List occasions when the teacher might consult with pupils informally.

How would you go about setting up a classroom laboratory in a course you might teach? How could you use a classroom laboratory?

Need for variety of materials

Providing for individual differences requires a wealth of instructional materials. It goes without saying that one cannot expect every member of the class to be interested in the same thing. Therefore, we must provide instructional materials which will suit many interests. Material too easy for bright pupils may be so difficult that it may frustrate the slow pupils. Consequently, the teacher should no longer limit himself to just one textbook. He must provide readings suitable to the various levels and interests which are found in his class. In addition to the readings the teacher should provide ample materials for other types of activities. A later chapter will show in more detail how to obtain and use such materials.

Not only should we provide a wealth of materials, we should also make them available when the pupil needs them. One of the characteristics of the classroom laboratory is an abundance of attractive, appropriate materials immediately on hand, ready for use. Thus the pupil can get whatever he needs at the appropriate moment without disturbing anyone.

Pupil participation in planning and evaluation

To provide properly for individual differences takes time. One of the keys to finding the necessary time is to allow the pupils to take a greater share in the responsibility for their studies. Adolescent boys and girls, particularly the brilliant ones, are quite capable of planning, directing, and evaluating their own work. When the teacher allows them to do so, he not only helps them to acquire skills in self-direction, but he also frees himself for individual and small group work. Moreover, the use of pupil planning and evaluation makes it possible for each pupil to map out an individual plan suitable to his own needs. Methods for conducting pupil planning and pupil evaluation are discussed in later chapters.

Providing for differences by means of free periods

Occasionally, pupils may be given free periods in which they are permitted to follow their own interests as much as possible. The activities of such a free period should be limited to those which are suitable to the classroom and to the subject. Such periods are usually more appropriate for reading and literature than for other subjects,

although this does not need to be so. They are often instrumental in forming new tastes in reading, art, music, and other areas, and often open new vistas of appreciation to the pupil. They also have the additional advantage of giving the teacher opportunities to help pupils who need individual attention.

How can one find material to suit the varying reading levels of his students on a limited school budget?

How can different types of work areas within a classroom help to provide for individual differences? How can they be used?

How can self-correcting material be used in providing for individual differences?

How can self-evaluation of a pupil's progress be used to motivate him?

THE SLOW PUPIL

Slow pupils are an especially difficult problem for the secondary-school teacher. Because he wishes to teach his subject well and because these pupils are not able, teaching slow pupils may be particularly burdensome. But slow pupils must be taught. Their lack of ability to learn by themselves makes them more dependent on instruction than other pupils are. Teaching worthwhile learnings to slow pupils is difficult, but it can be done. And it should be done well.

Characteristics of slow pupils

What is the slow pupil like? In the first place, he is slow. It takes him time to learn. He cannot think fast. To rush him through an assignment may result in little or no learning at all. But he can learn considerably more than we often give him credit for, if he has the time.

The slow pupil has little interest in ideas. As a matter of fact, he has great difficulty understanding the abstract, and more often than not finds it particularly difficult to generalize. This makes it difficult for him to cope with the normal academic curriculum and to transfer his training. Solving of problems is frequently too much for him because of his lack of ability. On the other hand, he can memorize, albeit sometimes excruciatingly slowly, and he can solve problems within his range of ability.

Because of his lack of ability and lack of interest in ideas, the



Lifelike, worthwhile activities stimulate learning.



Laboratory classes allow pupils to work alone or in small groups at interesting activities.

To be successful, laboratory experiences must be carefully planned.



slow pupil is easily discouraged by difficult academic material. Further, his lack of ability, poor vocabulary, and slowness often make it difficult for him to understand directions. When a dull pupil claims that he does not know what to do, he probably is telling the truth. Not understanding what to do and trying to cope with material too difficult can be particularly frustrating. Many dull youths are bored and discouraged. As often as not such pupils become behavior problems of one sort or another.

Although the dull pupil has little interest in ideas and the abstract, he is not devoid of interests. However, his interests are more likely to have to do with *realia* and concrete situations. His thinking is more likely to deal with specific situations than with generalizations.

Many dull boys and girls are much slower than they need to be. They are often very poorly prepared because former teachers did not realize the problems and potentialities of these youngsters. Therefore they learned much less than they should have. Such pupils frequently can be salvaged if we only take the trouble.

Teaching slow pupils

In teaching slow pupils one uses about the same techniques as one does with other pupils. However, the pace should be considerably slower and the subject matter adjusted to the level of the pupils. Since dull boys and girls can learn by working with their hands, the teacher should give them plenty of opportunity to do so. Handwork is valuable because it makes the learnings real and concrete to the dull pupil. This is important for he can frequently understand the concrete when the abstract would be too much for him. For this same reason the judicious use of *realia* and audio-visual aids will help slow pupils learn. Furthermore, the teacher should be careful to point out the implications of the lesson to the dull pupil because the pupil finds it difficult to transfer his learning readily. The classical verbal teaching methods are not suitable for the dull. The teacher should keep his instruction simple and concrete.

Obtaining materials for slow pupils

Teaching slow pupils requires an assortment of materials. Particularly desirable are reading materials suitable for high-school and junior-high-school pupils, yet written at elementary-school reading

levels. Fortunately, publishers and suppliers have come to realize this necessity and suitable materials are appearing on the market. At times reading material designed for younger pupils in lower grades may be used successfully for slow pupils. However, pupils may resent being asked to read from books they consider to be childish. Moreover, some slow pupils may be ashamed to be seen with books designed for younger pupils. Since attempts to disguise the grade level of textbooks have not been very successful, one should not insist on a pupil's using material designed for younger pupils unless he is willing.

When no stigma is attached to such books they may be excellent for slow learners. One way to use them is to pull the book apart and bind its more useful sections separately into plain cardboard binders. When this is done, the pupil does not need to carry a "kid's" book with him for any length of time. Furthermore, the practice allows the teacher to vary his assignments more easily.

In similar fashion the teacher can prepare much other reading material himself. Fortunately, many periodicals and newspapers contain relatively easy reading materials, often of high motivational value. With time a teacher can collect from such sources quite a selection of easy but interesting materials suitable for slow adolescents.

In some instances the teacher may have to create some of the materials himself. This is not as difficult as it may seem. If the teacher remembers to limit his vocabulary and to keep his sentences and paragraphs short and simple, he can prepare reading material of seemingly adult level which the pupils can read satisfactorily.

Since dull pupils find it difficult to learn through symbols, teachers should attempt to find materials which do not depend on words. Actually, to see things and to act things out will more likely result in learning than to hear or read about them. To this end, pictures, models, *realia*, and other concrete materials are useful. Methods for obtaining such materials are explained in the chapter on "materials of instruction." However, in dealing with slow pupils, the teacher should remember to keep the material as simple, clear, and realistic as possible.

Is the fact that some pupils feel that there is a stigma attached to being assigned to a section of slow pupils a serious problem? What might one do to reduce this feeling in the pupils?

Is it possible to teach slow pupils adequately in normal classes? If so, how would you do it?

In what ways would the methods you would use in slow classes differ from those you would use in regular classes?

THE GIFTED PUPIL

By "gifted youth" we mean those who have special abilities in some subject field. A person, no matter how dull he may be in other fields, is gifted if he has a special talent. Conversely, a pupil, gifted in one field, may be only average in others. In most school situations teachers are inclined to think of the bright youth as the gifted youth. Certainly bright youths are gifted, but so are the people with special talents in art, music, and mechanic arts. The truly talented in these areas need to have plenty of opportunities to make the most of these special talents. At the same time, the school must see to it that in exploiting his talent, the pupil is not kept from the education best suited for his needs and abilities in other areas.

Characteristics of talented youth

In dealing with talented youth we should remember that their special abilities and characteristics make the teaching problem somewhat different from that of teaching normal pupils. Because of their ability, and the interest which usually accompanies ability, these talented young people can accomplish more work in a shorter time than their classmates can. Not only can they do more work more quickly, they can do work of a higher order. Brilliant youths like to use their brains; they are intrigued by puzzles and problems; the abstract holds no fears for them; they can maintain interests in academic problems and assignments for long hours without flagging. On the other hand, work which the ordinary pupil finds difficult may bore them because of its easiness. Often they have studied and read independently to the point that they are well above the level of the normal class and even sometimes above the level of their teachers.

Yet the talented youth is in many ways a normal youth. He has most of the normal youth's traits and problems. He is not a thing apart and should not be treated as if he were. The problem is to make it possible for him to make the most of his talent while keeping the rest of his personality healthy. This is no small order, for the

talented youth has probably not learned to discriminate and take care of himself any better than his less talented brother.

Teaching talented pupils

In many school systems special programs, and sometimes even special schools, are provided for the talented pupils. These are excellent and should be encouraged, but of more concern to most teachers is how to help the brilliant pupil in the regular classroom. To answer this problem, each one of the techniques for meeting needs of individual pupils described earlier in this chapter may be used. However, because of their ability, brilliant pupils should stretch their horizons by attempting high-level assignments. Where the ordinary youth may be satisfied to read about the westward movement in a text, the brilliant pupil should be reading *The Oregon Trail*. When studying World War II, the brilliant pupil might try to reconcile the accounts given by Sir Winston Churchill, General Eisenhower, and others. In metal-working the brilliant youth should, in addition to doing fine work, study such topics as metallurgy, the metal trades, the economics of metals, and the effect of metal on history. The importance of keeping standards high becomes extremely apparent when we realize that according to Kingsley,¹ superior pupils often work up to only 40 per cent of their capacity, although less capable pupils may work up to 80 per cent. Allowing superior youths thus to waste their talents creates poor work habits and slovenliness. Brilliant youths should be held to high standards which will challenge the best that is in them.

In addition to attempting assignments of a high order the brilliant pupil should meet high standards of workmanship. He can do choice work; the teacher must see to it that he does. The teacher must not accept careless, poorly written, or poorly executed work from talented pupils. To do so engrains in them slothfulness and mediocrity.

Furthermore, the bright pupil can accept considerable responsibility for his own direction. Brilliant youths should have experience in planning and evaluating their own work. Since they are potential leaders, they need the experience in planning, organizing,

¹ Robert W. Frederick et al., *Describing Learning*, Appleton-Century-Crofts, Inc., New York, 1938, pp. 132-134.

making decisions, and carrying out plans. Moreover, they should have many opportunities for leadership and service in their classes.

Sometimes attempting to hold brilliant pupils to standards higher than those of their classmates may backfire. Some bright pupils may resent having to do better work than other pupils. With bright pupils this pitfall usually can be avoided by appealing to their pride, by attempting to convince them that the assignments are really worthwhile, and by making the assignments exciting and challenging rather than drudgery. The threat of poor marks is usually of little value in such situations. Bright youths can earn good marks without half trying. To get the most from these pupils the teacher must call upon more genuine motives. Usually this is not hard to do since the talented youth almost always enjoys challenging tasks.

What can be done to provide the brilliant pupils with work sufficiently challenging?

A teacher complained that her bright pupils were not working up to capacity because she could not make them do more work than ordinary pupils. What would you suggest that the teacher do to help keep the bright pupils working up to capacity?

In some schools teachers use the services of brilliant pupils in teaching the less brilliant. What is your estimate of this practice?

How would you attempt to catch the interest of a brilliant pupil who was obviously bored in one of your classes?

How would you go about to tempt brilliant pupils into doing considerably more and harder work than other pupils?

SUMMARY

Youths are individuals. If we are to serve them as they deserve, we can no longer depend solely on a single textbook or mass methods. Instead, assignments must be differentiated; provision must be made for small group and individual work, and special provisions must be made for the dull and gifted. Although adequately providing for the differences in pupils takes time and effort, by allowing boys and girls to carry some of the responsibilities for their own learning, the teacher can keep his load from becoming too great. In any case, the benefits to the individual pupils are usually worth the effort.

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- Mills, Hubert H., and Harl R. Douglass, *Teaching in High School*, The Ronald Press Company, New York, 1957, Ch. 23.
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Planning for teaching

The key to successful teaching is good planning. There is no substitute for it. Good planning helps create correct discipline, pleasant class atmosphere, and purposeful activity free from dead spots and waste motion—in short, good planning is likely to result in worthwhile learning. No one can teach well for long without planning.

The basic ingredients

What are the basic ingredients of a good teaching plan? Probably in teaching they can be reduced to the following:

1. What we expect the pupils to learn.
2. How we should try to teach it to them.
3. How we should evaluate the learning that is taking place.

The remainder of this chapter and the following will be devoted to these ingredients.

PLANNING THE COURSE

The teacher's responsibilities

Every course should be planned carefully and imaginatively. The planning of courses differs greatly from school to school and system to system. Some schools furnish a course of study, a syllabus, or a curriculum guide. These provide suggestions concerning the goals that should be achieved, the content of the course, the methods that might be employed, and materials that might be used. Some schools provide source or resource units. These units give suggestions for topics, objectives, and activities for the units to be used in the

course. course outlines or guide of any sort other than texts, workbooks, and teaching materials.

Still, no matter what the system has provided to aid the teacher in designing his courses, the responsibility for the content of the course rests squarely upon the teacher. If the school provides a course of study, syllabus, or curriculum guide, the teacher should make use of it. Not to do so may introduce confusion into a carefully planned school program. Even so, courses of study are usually suggestive and allow for considerable variation. Even when courses are rigidly laid out, the good teacher can vary the course to suit the interests, needs, and abilities of his pupils. This he can do by changing the course sequence, modifying the time spent on various topics, determining which topics should receive most emphasis, and varying the methods of teaching. In the final analysis it is the teacher who decides precisely what is to be taught and how it is to be taught.

One day a supervisor visited a beginning teacher who was having difficulty. This young person had taken on a job which was almost too much for him. He was teaching material difficult for him and was having considerable difficulty keeping up with the class. When the supervisor asked him for his plans, he replied, "I am so busy I have not been able to make any lesson plans yet." What would your answer be to this beginning teacher?

A well-known teacher once said that there are three things important in good teaching. They are: determining what the children are to learn, why they are to learn it, and how they best can learn it. Criticize this statement.

The textbook and course planning

If courses of study or curriculum guides are not provided, the most common method of selecting the content of a course is to follow a basic textbook. The chief merit of this plan is that it gives the beginning teacher an organized outline of the subject content to follow. However, the teacher should recognize that all chapters are not of equal importance.

Furthermore, the text sequence is not always the best for every class. Slavishly following a textbook is poor practice. It may cut one off from many opportunities for creativeness, from new ideas, from flexibility of approach, and from variety of method. It often leads to

the mere "covering of ground" in a subject rather than significant learning.

Planning the course sequence

From the foregoing we see that the teacher must plan his course himself, whatever he uses as a basis for his planning. The procedure for planning is relatively simple. It consists of three steps. The teacher may enlist the aid of his pupils in carrying out these steps or he may do them himself. In either case the responsibility for the decisions made is his. The steps are:

1. Decide what it is the pupils should learn from the course.
2. Decide the sequence of topics which should be studied in order to attain this learning.
3. Decide the amount of time which should be allotted for each topic.

Organizing the course psychologically

The three steps are quite simple, but they should be done carefully to provide a course of maximum benefit to the pupils. To do so, we attempt to organize the course psychologically and provide for transfer of training and retention.

Every course should be organized psychologically. That is, the course should be organized around the pupils rather than subject matter. In other words:

It should be adapted to the level of the pupils.

It should allow for variation from pupil to pupil and for the same pupil from time to time.

It should be selective, making important omissions in subject matter.

It should encourage logical memory and problem solving and emphasize teaching through guidance of experience.

It should use both vicarious and direct experience in a proportion suitable to the level and experience of the pupils.¹

From the above one can see that the topics for any course must be selected with greatest care. The competent teacher selects topics suitable to the pupils' activities and interests. If possible, he picks topics of immediate intrinsic value to them, frequently with the

¹ Adapted from Roy O. Billett, *Fundamentals of Secondary School Teaching*, Houghton Mifflin Company, Boston, 1940, pp. 162-163.

help of the pupils. He sees to it that the course does not limit the pupils to book learning alone, but that it is a judicious mixture of vicarious and direct experience.

Furthermore, the competent teacher adapts the topics he has selected to the needs of his class. Since all pupils are individuals, a predetermined selection of topics will not be appropriate for all pupils. The teacher should provide opportunities for differentiation within the topics and, if necessary, addition to, deletion from, or substitution for the normal sequence for some individuals.

One author says that one should not follow a text in planning a course. Do you agree? Why, or why not?

Of what value are textbooks, curriculum guides, courses of study in the planning of a course? How should each of them be used? How rigidly should they be followed?

Planning for retention and transfer of training

Using the outcome of one learning situation in another situation is called transfer of training. Thus, when a pupil uses in a history class skills which he originally learned in English, transfer has taken place. If such transfer does not take place, the learning is of little value.

Transfer is not usually automatic. It is more likely to result when the application of the learning to other situations is pointed out. When that is not done, transfer may not take place because the learner does not see the relationship. Transfer also results from components common to the original learning situation and the situation in which the learning is to be used. In effect, this means that the more the "learning situation" is like the "using situation," the more likely it is that the learning will transfer.

Another aid to transfer is thorough learning. One can transfer what one knows and understands much more readily than something less well known. Thorough knowledge helps us remember also, but the best way to retain what we learn is to use it. What we do not use we tend to forget. Of course, we remember extremely vivid happenings well and we have learned some things so well that it seems we can never forget them. Still, in spite of exceptions, the rule holds. Even one's native tongue becomes rusty if one does not use it. The key to retention is renewal through frequent use.

Who should decide what the goals of a course should be?

How would you decide what a course should include?

How can you prepare for individual differences in the initial planning of a course?

What would you look for in selecting materials for your course?

PUPIL-TEACHER PLANNING

Motivating by means of pupil-teacher planning

No one knows what the pupil finds interesting and important better than the pupil himself. Since teachers should select material that is important and interesting for boys and girls to study, what could be more natural than to ask them to help select the topics and activities? In today's schools pupils frequently participate in planning lessons and units of study.

Pupil participation in planning aids in motivation. Once an activity is planned by the group, it becomes a group activity. In other words, if the planning has been really successful, the responsibility for completing an assignment becomes a group concern. The young man who fails to do his part no longer faces the displeasure of his teacher alone; he must also face the displeasure of the group he has let down. And, for an adolescent, the displeasure of one's peers is much more powerful than that of an adult.

A laboratory of democratic citizenship

One of the aims for which many teachers and educational theorists claim schools should strive is the ability to think. Another aim frequently mentioned in the literature on education is the ability to choose wisely. One of the reasons for advocating public education is to develop good citizens. All of these educational aims imply the ability to plan one's own work, and the ability to work with others in planning group activities. What better experience can one gain in this sort of thing than by participating in the planning of class activities and lessons? Pupil-teacher planning offers one a laboratory in thinking, in making choices, in planning—in short, in democratic citizenship.

Not pupil planning but pupil-teacher planning

Cooperative planning is not pupil planning but pupil-teacher planning. Under no circumstances can the teacher abdicate his responsibilities and role as mentor. The teacher must guide and limit:

seldom, if ever, should he turn the pupils completely free. The amount of freedom the pupils should have depends upon many things, such as the pupils' maturity, their ability level, the subject, and their previous experience on cooperative planning. Pupils who have not learned how to plan will be overwhelmed if suddenly allowed to direct themselves. Furthermore, to ask pupils to plan the topics in a course whose sequence is largely determined by the nature of the subject matter—as in mathematics—seems pointless. Pupil-teacher planning should not be used in the same way with all pupils, nor in all subjects.

Moreover, such planning may not be appropriate for all teachers. Conducting courses in this fashion requires considerable skill. It requires a teacher who is not afraid to subordinate himself to the group, who does not need to be the center of the picture, who is not afraid of making errors, who can command respect without demanding it, and who is relatively sure of his control of the pupils. The new teacher should go slowly in introducing pupil-teacher planning. Not to do so may result in chaos.

What are the advantages of pupil-teacher planning? What are its dangers? When and where would you use it? How would you set about to use it?

Is pupil-teacher planning better suited to certain subjects and courses than to others? Explain your answer.

Honesty the best policy

In a best-selling book a popular writer states that he brought up his children by a permissive system—in other words, he permitted them to do anything *he* wanted them to do. Sometimes this is true of teacher-pupil planning. The teacher permits the pupils to plan to do what he had already decided they should do. Such planning is not really pupil-teacher planning at all. It is teacher planning in disguise. Teachers who attempt to force their own plans on the pupils under the guise of cooperative planning are hardly honest. In all things the teacher should be on the level with his pupils. If he plans for them to choose within limits, let him prescribe the limits in advance. If he does not, he should go along with the pupils' decision even though it be a poor one. To allow the pupils to plan and then to veto or revoke the plan not only borders on the dishonest, it destroys the faith of the pupils.

How to conduct pupil-teacher planning

Successful cooperative planning does not come accidentally. It results from careful planning. As a matter of fact, in some ways cooperative planning requires more rigorous planning than does the more conventional type of lesson. This is so because the pupils require motivation and guidance. To help pupils make good choices without dictating to them is an art which requires real preparation. Since cooperative planning may take the group off in any of several directions, the reader can readily see that this type of planning also requires exceptional knowledge of one's subject matter. Furthermore, it often means that the teacher should have several possible plans ready in order to guide the group in the way it decides to go.

Pupil-teacher planning for beginners

Although pupil-teacher planning is not particularly difficult, pupils require training and practice in the techniques before they can master them. Often boys and girls can learn to participate in pupil-teacher planning by first helping to plan their own activities. As they develop more maturity and skill in working as a group, they can proceed to the more difficult task of planning class activities. Later, when they have become more sophisticated, they can move on to such difficult tasks as planning what to include in a topic, and, finally, what topics to include in a course. With inexperienced pupils one should not expect great success initially. The secret of success is to give them small responsibilities at first and gradually to increase these responsibilities as the pupils show they are ready.

One method of introducing pupil-teacher planning is to present alternate plans and to allow the pupils to select the plans they prefer. Thus, in a general mathematics class which is studying how to prepare a budget, the teacher might ask the class whether they would prefer to make up a personal budget or to set up an organizational budget. In a music class the teacher might ask the group to choose between preparing "The Soldiers Chorus" or "When the Foeman Bares His Steel." In English class the pupils might decide whether to study the short story or the drama next.

Another way to involve pupils in the pupil-teacher planning is for the teacher to propose a plan of action and then ask for their

suggestions and approval. In business education, for example, the teacher might ask the pupils if they would like to go to a bank and see how a bank operates. If they agree that this idea has possibilities, then they might discuss ways and means of making the visit and things they might wish to see when they get there.

Discussion techniques in pupil-teacher planning

Groups can also plan by discussion techniques. As a class is about to begin the study of insects, the teacher might ask, "What do you think we should learn about insects?" During the discussion the pupils might propose such things as:

What do insects eat?

How do they reproduce?

What are insects anyway?

How do you make an insect board? And so on.

The teacher will undoubtedly have some things to suggest. Somewhere in the discussion he might ask: "Don't you think we ought to know something about the insect's life cycle?" Perhaps the pupils will not know what a life cycle is. Probably when they do know, they will want to include it. If they do not, the teacher should indicate the importance of the life cycle and point out the necessity for including it in the study.

Discussion techniques can also be used to plan learning activities. For example, as the class decides what it wants to study, the teacher or leader can bring up the question, "How do we go about it?" Thus, through class discussion, committees can be formed, readings can be suggested, dramatic roles can be cast, and field trips can be projected. Sometimes the class may ask a pupil or group to investigate and report back on the feasibility of a project. Included in these plans should also be plans for evaluating what has been learned.

The same group discussion techniques can be used by a relatively mature group to select a topic for study. A good way to launch such discussion is to ask the pupils to suggest possible plans for consideration. Perhaps one might ask the pupils to skim a chapter or a book to find topics in it they would like to learn about. Perhaps their curiosity may be piqued by a movie, a story, a teacher talk, or a discussion of some current event. Consider what happened in a certain general science class the day after the first artificial earth satellite

was launched. After a short discussion of the new satellite, it was obvious to all that the boys and girls of that eighth grade were anxious to know more about astronomy and were ready to work on it.

If discussion techniques are used in teacher-pupil planning, someone should keep a record of the decisions as they are made. If this record is kept on the chalkboard where everyone can see it, it makes the planning easier. As soon as the group has finished its planning, the final plan should be reduced to writing and given to the pupils, or posted on the bulletin board or the blackboard, so that the pupils will have it for ready reference.

A word of caution

A word of caution at this point. One must remember that in order to plan, one needs some information to use in one's planning. The following anecdote, concerning a professor who found himself substituting for a sick colleague at an instant's notice, may be a case in point. The class he was to teach was the first one in a course in educational psychology. His only instructions from his stricken colleague were for the students to discuss what they would like to get out of the course. The discussion failed because the students did not know what one could get from such a course, and the instructor was not well enough prepared to help them out. Secondary-school pupils who do not know the possibilities open to them cannot plan well either.

Making group decisions

In making group decisions, straw votes are usually helpful. The technique seems to be to avoid putting the question to a formal vote, but frequently to seek an expression of opinion. This allows easy elimination of unpopular alternatives and avoids foundering on difficult decisions. When the straw vote shows a split decision, further discussion can often bring the pupils to agreement. If no agreement is reached, the pupils usually will be willing to compromise, e.g., first "your topic, then ours." If necessary, one can resort to a formal vote, but doing so may defeat the purpose of teacher-pupil planning and is liable to split the group.

Teacher-pupil planning is usually more satisfactory when the group has some criteria on which to base its decisions. These criteria

can be made jointly or by the teacher with class approval. During the planning session the teacher may often have to remind the class of the criteria. "Is this the sort of thing you really wanted to do? Is this really pertinent to our problem?" By so doing he can usually improve the quality of group decisions without seeming to impose his own will on the pupils.

Pupil-teacher planning for individual pupils

Not all the planning for specific learnings needs to be through group activity. Certain pupils may wish to learn several specific things. Provision should be made for this in the planning of individual and small group activities.

If the goals are firmly fixed and the pupils know what activities they may choose from, or what activities may help them learn what they want to learn, then individuals can do much of their own planning without the teacher's doing much more than approve their plans. Of course, the teacher will usually need to suggest a few changes of plan, recommend sources of materials and references, and guide the pupils as they work along. This procedure relieves the teacher of much of the detail, so that he has much more time to work with individuals. In addition, the pupils learn through their own planning. It is unfortunate that many pupils have been deprived of this type of learning by overzealous teachers.

A concluding statement

As one can see, cooperative planning is hardly a lazy man's way to teach. It is an excellent method of involving pupils in the learning process. It is particularly effective in long-term planning such as weekly or unit planning.

To what extent and in what ways should the pupils participate in planning of the course?

How would you introduce pupil-teacher planning to a high-school class which had never had experience in planning?

PLANNING LESSONS

Once the course has been planned, the teacher must plan for the actual instruction. Some teachers use the unit plan as the basis for their planning. Others develop their topics on the basis of daily

lessons. Since the latter procedure is the older and more deeply entrenched of the two let us consider it first.

Preparing the lesson plan

A lesson is a short period of instruction devoted to a specific topic, skill, or idea. In preparing a lesson, the first thing to do is to decide what the pupil should learn from it. This is called the objective of the lesson. Deciding what these learning products should be is the responsibility of the teacher. That is true even though the lesson as a whole is developed cooperatively with the class.

In selecting the objectives, the teacher should keep certain criteria in mind. Perhaps the first of these is that they should be worthwhile learning products, pertinent to the course. One should always have a valid answer for the pupil who asks, "Mr. Jones, why do we have to study this?" Another criterion is that each learning product desired should be clear and definite in the teacher's own mind. In order to be sure that his objectives are clear, the teacher would do well to describe just what the desired learning products are in a few simple declarative sentences. He may be surprised to find out that he is not always so clear about them as he thought he was.

Not only must the objectives be worthwhile, pertinent, and clear, they must also be feasible. To try to teach something which is too difficult or which cannot be completed in the time allotted is pointless. This brings up an important point. All pupils cannot learn the same things in any class. What is too easy for one may be too difficult for another. Therefore one's objectives should allow pupils to achieve them in different amounts and in different ways.

What would be a suitable objective for a lesson on Edgar Allan Poe's *The Raven* to be given in grade 10?

How can one's objectives allow pupils to achieve them in different amounts and different ways?

Selecting the subject matter

At this point it might be wise to mention the subject matter of the lesson. No lesson can get very far if the teacher neglects subject matter. The subject matter selected should, of course, lead to the objective of the lesson, and can hardly be separated from the activities. Often it is wise to outline the subject matter to be studied or

discussed. This outline might be included in the lesson plan itself, or placed on a separate sheet of paper. In choosing subject matter, it is particularly important to be selective. One cannot learn everything. Therefore the teacher should avoid attempting to include too much, and rather should include only that subject matter which seems to him to hold the most promise.

Planning the activities

Once the objective has been chosen we must decide how to reach it. This is done by the activities of the pupils in and out of class. Experience is not the best teacher; experience is the only teacher. Consequently, the planning of suitable activities is crucial. They are the experiences through which pupils learn. Unless they are properly planned, one can hardly expect the pupils to reach the desired goal.

Activities may be called the teacher's tools, and should be used accordingly. Just as a carpenter uses a rip-saw for ripping boards and a cross-cut saw for cutting across the grain, so the teacher needs to select the proper activities for the job to be done. To this end, the teacher should learn to conduct many different kinds of activities. The more activities the teacher knows how to conduct, the more likely he will be able to find the activity most suitable for any given situation.

As in planning of objectives, the teacher must be careful to choose suitable activities. If he wishes, he may enlist the help of pupils in deciding upon the activities. Still, the teacher is responsible for the quality and suitability of the activities chosen. Some criteria he may consider in selecting activities are:

1. Will the activity lead to the goal desired? Is it suitable?
2. Is it efficient? Will it lead us to our goal directly and economically?
3. Is it suited to the pupils' abilities and interests?
4. Do we have time for it?
5. Do we have the material for it?
6. Does it allow for individual differences?
7. Is it suitable for the room in which it is scheduled to take place? If not, can we find a suitable place?

In addition to selecting the activities the teacher must also decide how to conduct the activities. He therefore tries to determine

the sequence of the activities and the approximate time to be spent on each activity. He plans how to introduce the lesson and how to launch the various activities. He also provides for finishing each lesson with a culminating activity—a summary, for instance.

Preparing for the activities

The teacher must also prepare for the activities. If he plans to use questions, he decides what questions to ask, and notes down the wording of the more important ones. If he plans to use demonstrations or films, he gathers the necessary materials and equipment beforehand and checks them carefully to be sure that everything is in working order.

Before attempting any experiment or demonstration one should try it first to make sure of one's apparatus and technique. Nothing is flatter than a demonstration which will not work. Similarly, before one assigns a problem or exercise, one should check to see that it is soluble and that he himself knows how to solve it. Picture the plight of the beginning teacher who, in a physics class, was stumped by one of the exercises he had assigned to be worked on the board. A brilliant pupil finally showed him how to do it. Mistakes of this kind cause the pupils to lose respect for the teacher.

What activities might one use to teach the objectives you decided were suitable for a discussion of *The Raven*? Plan the activities for a lesson designed to achieve these objectives.

Other elements of the lesson plan

In his plan the teacher should list the materials and equipment needed for the lesson. He should also note special things he plans to do, such as announcements to be made. Also, he should write down things he wishes to remember to do or say, such as speaking to John about trying to be a little tidier, or to give Joe a hand with setting up equations. Part of his planning will, of course, provide for any new assignments.

Using plan books

School officials often provide teachers with plan books with which to plan their lessons. These are valuable for planning the long-term sequence for the school year. Unfortunately, some of the

commercial plan books do not allow enough space for one to enter an entire plan. Since this is the case, the teacher may want to prepare his daily plan on a sheet of composition paper or in a notebook designed for that purpose.

A sample lesson plan

The "Cambridge Daily Plan Book" shown on p. 74 uses the format of a commercial plan book. In actual practice the teacher listed the sentences he planned to use on a separate sheet of paper rather than in the plan book. Read the plan critically. It is not at all perfect.

Following is a lesson plan prepared by a college student using a form slightly different from that just described. This plan is designed to be used in a twelfth-grade chemistry class. Evaluate this lesson plan. Can you suggest any ways in which it might be improved?

LESSON PLAN—Thursday

A. Objectives:

A molecule is the smallest possible division of a substance which can be made without destroying its properties.

Energy is the ability of matter to move other matter, or to affect the motion of other matter.

The two kinds of energy are: active or kinetic, and stored or potential. Matter and energy are related since matter cannot be moved without some force to cause the movement.

B. Subject Content:

1. Text reference: pages 34-9, covering topics: molecules, elements and compounds, matter and energy, and two kinds of energy;
2. Orally read pages 34-9; discuss and explain the topics covered, especially noting and clarifying the concepts of molecules, elements, compounds, atoms.

C. Class Procedure:

1. Initiate lesson with brief review of matter, and introduce its composition;
2. Read pages 34-9 orally and then go over the sections slowly, explaining the more difficult passages;
3. Display a picture of an atom and list the elements;
4. Have a discussion on energy and its kinds;
5. Have each student write examples of some form of matter having a particular kind of energy;
6. Have some of these examples contributed to the class.

D. *Instructional Materials:* Text—*Our Environment*; general chemistry textbook;

E. *Assignments:*

Memorize the definition of energy and its two kinds: potential and kinetic.

Summary

In summing up, let us note that a lesson should consist of the following:

1. The objective. A precise statement of what is to be learned in the lesson.

2. Subject matter. An outline of the subject matter to be covered is often very helpful. If it is to be used, it can be included here.

3. The activities. The activities through which objectives will be reached should be listed in order of occurrence with provisions for introducing them and for culminating activities. Evaluative activities should be included also.

4. The materials needed. The materials needed for each activity. Planning includes acquiring the materials and getting them ready for use. Preparing the classroom for the lesson should also be included.

5. Special notes. Reminders of anything which may be forgotten. Usually here one includes the extraordinary. Announcements and special work for individuals are examples of the type of thing often included.

6. The new assignment. The following section will be devoted to the assignment.

PREPARING THE ASSIGNMENT

An essential part of any lesson is the assignment. The assignment serves four functions. It can set the direction of learning; it can motivate; it can show the pupil how to do the task; and it can provide for individual differences. Let us look at these functions briefly.

The functions of the assignment

The first purpose of the assignment is to set the direction and the scope of the task. It is almost impossible to do anything unless one knows what to do. The purpose of the assignment is to make

CAMBRIDGE DAILY PLAN BOOK ²

For High and Grammar Schools

GRADE OBJECTIVE	WORK ASSIGNED	DATE RESULT
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Proper punctuation, proper word choice, and proper construction help make sentences clear.

1. Return compositions.
2. Explain marking system (Two grades: one for comp., one for mechanics).
3. Review theme. Point out that the story must carry out the premise in order to be successful.

4. Go over the following sentences selected from the composition. Note: Exercise should be considered a help. First correct sentences on paper; then discuss them. Rewrite, if necessary.

What is wrong with each of these sentences?

1. The body of the dead wolf loomed up before him. (loomed up is inappropriate, perhaps lay, appeared)
 2. Coming into the room Mother asked What is the matter? (dangling phrase, quotation marks)
 3. Now I've really tried it, he'll be on my back the rest of the week were Johnny's thoughts. (quotes, half sentences)
- [Five other sentences have been omitted to conserve space]

Summary questions: Why punctuate? Why good sentence structure? Why be careful of words?

Assignment: Read *The Spectre Bridegroom*. What do you think the premise to be in this story?

Note: Period cut to 10:14 because of grade reports.

Remember to show Allan how to develop premise. He missed original explanation. He should rewrite the composition.

² This form is a page from the Cambridge Daily Plan Book published by the J. L. Hammett Company and used by their permission.

each pupil's task clear and definite to him. Some teachers tell the pupils just what is to be done. Others develop the task cooperatively with the group. In either case, however, the teacher should try to make sure that each and every pupil knows exactly what his task is. In case of a problem, for instance, the teacher must be sure that the pupils understand the problem, that the problem is well enough defined to be manageable, and that the pupils know how to go about solving it.

An example: Let us suppose that the class had just completed studying the Civil War period and is ready to go on to study the Reconstruction period. Let us further assume that as a result of class discussion the class had decided that they wanted to know the answer to some of the following questions:

After the war was over, how did the Confederate states get back into the Union?

How did the Southerners feel about the North? And vice versa?

If much of the South was destroyed, as by Sherman in his march to the sea, how did the people live in the South after the war?

What happened to the slaves?

What happened to the Confederate soldiers?

These questions could lead a group of students into all sorts of problems. These are not easy problems. Books have been devoted to each of these questions. On the other hand, impatient, subject-centered, ground-covering teachers often have tried to answer each of them summarily in a few sentences. If these questions are to serve as a basis for future study they must be delimited.

In any case, the assignment must be clear and definite before it is finally made. Probably it is best to reduce it to writing. Short assignments may be placed on the chalkboard. Longer assignments should be duplicated. Written assignments minimize pupils' forgetting what it is they were going to do. Also, setting the assignment down helps lessen chances for misunderstandings—both on the part of the pupil and the teacher—of what the task is.

The second function of the assignment is *to prepare the pupils for the job to be done*. This preparation includes supplying the background material the pupils need before starting the new task and providing for adequate motivation. Since the assignment determines what is to be done, it is particularly important in motivation. It is during the assigning that the teacher makes sure that the pupil

knows why he should do this job and that the reasons for doing it are worthwhile.

Not only should the assignment make clear what is to be done, and motivate the pupil to attempt the task, but *it also must point out to him how to do it*. This is the third function of the assignment. Although teachers should avoid spoon-feeding the pupils, they should also be sure that each pupil knows how to go about his task. If it is a job of studying through reading, the key words should be pointed out, and suggestions concerning what to look for should be made. In other words, the teacher should try to be sure that the pupils know how to use the methods and materials available to them.

Another function of the good assignment is to be sure that each and every pupil has a task appropriate for him. It is hard to prove any subject matter is truly essential except as it meets the needs of youngsters. If this is true, any assignment which places subject matter above the individual differences of the youngsters is of doubtful validity.

The marks of a good assignment

What, then, are the marks of a good assignment? The following list will suggest some criteria for evaluating an assignment.

1. Is it worthwhile?
2. Does it seem worthwhile to the pupil? In other words, does it capitalize on pupil interest or create pupil interest?
3. Is it clear?
4. Is it definite?
5. Does it provide for the differences in pupils—i.e., their different aptitudes, abilities, and interests?
6. Is it reasonable as far as length and difficulty are concerned?
7. Does it show the pupil how to go about it? Does it suggest methods and materials which may be used profitably?
8. Does it provide the pupil with the background necessary for completing the assignment satisfactorily, e.g., vocabulary?

Use these criteria to judge assignments given in your college courses.

Do your college assignments perform the functions assignments should perform? If they fail, in what ways do they fail?

A student teacher's assignment to his United States history class was, "Read pages 184-297 for tomorrow." In what way is this assignment deficient?

Making the assignment

In order to make an effective assignment, the teacher must take time to develop it sufficiently. Even for a short assignment the teacher will ordinarily need to allow at least ten minutes for his presentation. The use of one or more entire periods is not unusual. In fact, properly to develop a long-term assignment or a unit assignment in less than a period is virtually impossible, particularly if the assignment is developed by the teacher and class cooperatively.

It matters little whether the assignment is developed at the beginning, middle, or end of a period as long as one allows time enough to do the job properly. To be most effective, the presenting of the assignment should probably immediately precede the task to be done.

SUMMARY

Planning activities are not a lazy man's activities. They are, however, essential if the teacher is to make full use of his knowledge and skill. Poor planning has ruined many classes. In fact, it has been described as the most common cause of not learning.

The responsibility for planning is the teacher's. He must plan his courses, his units, and his daily lessons, although he may have curriculum guides, courses of studies, source units, textbooks, and other materials to draw from. In planning his courses, the teacher can find these devices greatly helpful, but he should guard against their restricting him too much. In selecting the topics and subject matter for the course, the teacher should try for psychological organization and for maximum retention and transfer.

Every lesson needs a plan. The essentials in a daily lesson plan are the objectives, the subject matter, the activities, the list of materials needed, the assignment, and any special notes. These essentials tell us what to do, how to do it, and how to check on our success. Sometimes daily lesson plans used in conjunction with units need not be very detailed.

Although the responsibility always rests on the teacher's shoulders, the pupils can often cooperate with the teacher in planning. However, pupils must be taught to plan cooperatively. Usually one should start by designing class activities together. Deciding what

one hopes to learn from a topic and what the topics of a course should be require considerably more sophistication. With inexperienced pupils one should not expect great success initially. The secret is to give them small responsibilities at first, and then increase the responsibilities as the pupils show they are ready.

The assignment is an essential part of any lesson because it sets the direction and scope of the task, prepares the pupil for it, and shows him how to do it. Unless the assignment is well made, the lesson may fail.

All in all, although planning may be hard work, it is one of the keys to successful teaching.

FOR FURTHER READING

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- Risk, Thomas M., *Principles and Practices of Teaching in Secondary Schools*, Third Edition, American Book Company, New York, 1958, Chs. 10-13.
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CHAPTER 5

The unit

What is the unit method?

In essence the unit method is a method of organizing subject matter, teaching techniques, and teaching devices so as to create effective teaching-learning situations. Each unit may be said to have two parts: one, the learning products the teacher hopes will result from the unit; and two, the activities and experiences which are intended to produce these learnings.

The potential learning products are the teacher's goals. These are the skills and understandings and their attendant attitudes, appreciations, and ideals which the teacher is trying to instill in the pupils. Real learning products are changes in the pupil. Unless these changes occur, no lesson is successful. Of course, the same changes will not occur in every pupil. Some will learn more than others; some will learn more thoroughly; some may become enthused by the learnings; some may be left apathetic. The teacher's goals, then, do not represent the real learning products of the pupils; they represent what the teacher hopes the learning products will be. If the unit is successful, the real learning products of the individual pupils will approximate the teacher's goals.

The second part of the unit consists of the experiences and activities in which the pupils engage in order to acquire the learning products. These activities we shall call the unit assignment. All of the activities and experiences are designed to help the pupils achieve the potential learning products which are the teacher's goals. Although all the activities and experiences should help produce the

desired learnings, not all the pupils participate in each activity. There are, however, certain activities that may be required of all pupils. These we shall call the basic activities. Other activities may be purely optional. Pupils usually select the optional activities from a list given by the teacher or developed by the class. In carrying out a unit assignment, much of the direction and planning comes from the pupils themselves. Each pupil may be provided with a mimeographed study guide. With this guide and the teacher's help the pupils can plan their individual activities to a large extent. Thus they can begin new activities without waiting for the other members of the class, and the teacher is freed to work with pupils who need help, guidance, and counseling. As one can readily see, the unit assignment, usually lasting from two to six weeks, is a refined form of the differentiated assignment.

Types of unit

At present, many authors differentiate between units and classify them by types. For example, it has been a practice to speak of subject matter units and experience units. The beginning teacher should not let this terminology confuse him. A unit is a unit. All units consist of both subject matter and experience. One cannot teach without subject matter because subject matter is what one teaches to the pupils. Since one learns only through one's experience, whatever is taught must be taught through experience. We usually think of experience units as those which emphasize the experiences or the learning process, while subject matter units are those in which subject content is emphasized. The difference is not a significant one—merely a difference in emphasis. Some writers also refer to appreciation units, process units, and other special purpose units. These are merely units in which a certain type of learning product is emphasized. For our present purpose these differences may be disregarded.

THE TEACHING-LEARNING CYCLE

The teaching of a unit consists of four phases. They are the introductory phase, the laboratory phase, the sharing of experience phase, and the evaluating phase. Together they make up the teaching-learning cycle or process.

The introductory phase

"A good beginning is half the battle." Perhaps this adage is an exaggeration, but it certainly has a point as far as teaching is concerned. A great deal of the success of any unit depends upon the introductory phase or, as it is often called, the approach. This phase consists of activities designed to launch the unit. In it the teacher attempts to:

1. Arouse the pupils' interest.
2. Inform the pupils of what the unit is about.
3. Help the teacher learn more about his pupils—their interests, their abilities, their present knowledge of the topic.
4. Show the relationship with preceding units and other courses.
5. Plan the rest of the unit with the pupils.

Sometimes an introductory activity sets the mood for an entire course or unit. If it is pleasant, friendly, and sprightly, perhaps the impetus of the first day will keep the class atmosphere pleasant, friendly, and sprightly. For this reason the first activities should be purposeful and business-like. When a class gets off to a fast start, the pupils are likely to get the impression that in this class there will be no nonsense because it is going somewhere. On the other hand, one can readily see what the pupils will expect of a class that starts late with much confusion and waste motion. Similarly, if the introductory activities are dull, to convince the pupils that later activities may be interesting will be more difficult. An introductory activity is a device to get things going, and a good one does just that. Every course, unit, or lesson should start off promptly with an activity which tells the pupil, "Hold on to your hat, we are on our way."

For example, a chemistry teacher makes a practice of starting his unit on oxidation with a "bang." As he starts his introductory talk, he casually mixes together the ingredients for a demonstration that he says is yet to come. Suddenly an explosion nearly rocks the pupils off their seats. The teacher and pupils quickly follow the explosion with questions and discussion. What happened? Why? And so on.

The following was suggested as a possible interest-catching introductory activity in a biology unit. What do you think of it?

1. Select ten substances with characteristic odors, such as an onion, orange, fish, or peanut. Place them in small corked bottles. Blindfold your companion and be sure he holds his nose so he cannot smell. Let him taste each substance separately and describe it to you. Record each description carefully. Make two trials.

2. Keep him blindfolded, but do not hold his nose. This time let him smell each substance and describe it. Make two trials.

3. Compare the descriptions of the taste and smell of each substance as he gives them to you. How do they differ? Can you draw any conclusions about a person's relative ability to taste and smell? Do you think a cold in the nose makes any difference in the enjoyment of food? Why?

Could the above be used as an interest-catching introductory activity? Why, or why not? If not suitable as is, how might you adapt it for such an activity? Perhaps you will want to compare your answer now to your answer after you have completed reading this section.

Motivational values of introductory activities

A good introductory activity may not only catch the interest of the pupils, it may set the pupils' mental gears in motion; it may start young minds to thinking about the topic; it may arouse their curiosity; it may challenge them; or it may give them a taste which will make them crave more. In other words, a good introductory activity can motivate learning.

Some examples of introductory activities which are designed to motivate include the following. In mathematics the teacher may give the pupils a puzzle or problem of the "Mathematics for the Millions" variety which will challenge the pupils' ingenuity. In the social sciences the teacher might propose a troublesome problem facing the nation and challenge the pupils to seek possible solutions.

Pupil planning in the introductory phase

A main purpose in the introductory phase is to give the pupil direction. Although the pupil need not know the teacher's goals for the unit, he should have some idea of where he is going and what he can get out of it so that he can set goals of his own. Thus part of the introductory phase must be spent in planning. Since the class will spend much of the time in succeeding class sessions in individual and small groups, the pupils should plan the activities for the rest of the unit in the introductory phase. A good method is to distribute the study and activity guides at this point and let the

pupils, with guidance, determine what they wish to do, and prepare a plan. A sample form for a plan follows. The pupils should not be held closely to this plan; they should be permitted to change it and amplify it throughout later phases of the unit.

WORK PLAN

Name _____ Class _____

Unit _____ Date _____

Activities I plan to do.

Committees I plan to work with.

Materials I plan to read.

Things I plan to make.

Providing a basis for planning

Not only can the introductory activity give the class an opportunity for planning, it can give the pupils the basis on which to plan. By means of a teacher talk, a motion picture, a dramatization, a reading, or some such activity, the pupil is oriented and briefed so that he has the information necessary for him to know where he is and where he is going.

A good introductory activity can help the teacher get to know his pupils better both as a group and as individuals. Such information is essential to good planning. Activities and devices which are useful in this respect have been discussed in Chapter 1.

What specifically might you do to challenge and motivate youngsters to learn in a subject which you plan to teach?

What are the merits of using a pretest as an initiatory activity? Under what circumstances would you recommend using a pretest?

Types of activities in introductory phase

Teachers can use introductory activities for many purposes. However, they should not expect any one introductory activity to do everything one might wish for in initiating a course or unit. One may need to use two or more different introductory activities to perform the functions desired in the introductory phase of any particular unit. For instance, one may find it desirable to use one activity designed to help teacher and pupils get acquainted, another activity designed to arouse pupil interest, and still another designed to help pupils plan, all in the same unit.

The teacher's role in the introductory phase

The teacher's leadership is particularly important in introductory activities. Since the pupils are starting afresh, they have little or no framework in which to fit themselves, nor do they yet know in what direction they are going. Consequently the teacher must use better-than-average leadership or the class may flounder. This is particularly true in the introductory phase of the first unit of a course. For this reason introductory activities may well be teacher-centered.

One of the most popular introductory devices is to talk to the pupils. If one is good at it, this is an excellent method, but the talk must be interesting, sprightly, and pointed. It should hold promise, but not false promise. Perhaps it may outline what is to come, but the outline should not be overly detailed.

Teacher talks are only one type of many introductory activities. Other types of activities high on the list are demonstrations, motion pictures, discussions, pretests, questions, and planning.

Necessity for an excellent introduction

The introductory phase often becomes vestigial as the natural carry-over from unit to unit eliminates the necessity of many of its functions and as the teachers learn to know their pupils better. However, the teacher should use the most appropriate introductory activities he can employ. Because a good start is so important, introductory activities are worthy of one's best teaching. Sometimes an introductory activity can make or break a unit.

The laboratory phase

In the laboratory phase the pupils go to work on their activities. During this phase they are free to attempt, under guidance, whatever activities seem best to them. Thus they can capitalize on their own interests and abilities. Activities during this phase will consist largely of individual and small group work such as committee projects, construction activities, individual research activities, extensive reading, and the like. From time to time the class may be called together by the teacher or the pupils to engage in common activities such as talks, discussions, moving pictures, and field trips. To a large extent the programming can be done by the pupils themselves. Many times the class selects a steering committee to coordinate the activities.

The sharing of experience phase

Logically, the laboratory phase should be followed by the sharing of the interesting things learned during the laboratory phase. This part of the unit must be carefully planned. Nothing can be more boring and less conducive to learning than pupil reports repeated endlessly. Ordinarily, the pupils should do the programming themselves, but the teacher must guide them carefully to ensure variety and sparkle. Some devices which may be used are:

1. Panels.
2. Oral talks.
3. Dramatizations.
4. Writing up the activities for publication.
5. Debates.
6. Group discussions.
7. Meetings of the class.
8. Exhibits.
9. Demonstrations.
10. Preparing an anthology of pupil work.
11. Presenting and defending a position.
12. Recordings and tapes.
13. Audio-visual materials.
14. Moving pictures.

The use of these techniques is described in another chapter.

The evaluating phase

The culmination of the unit is the evaluating phase. Naturally, a good unit assignment will consist of many evaluations. The teacher evaluates the pupils' progress as they perform the activities, and so do the pupils. However, the end of the unit is a particularly good time for evaluation. Here the teacher stops to see how well pupils have progressed toward the goals. The teacher needs to know the pupils' progress in order to determine what to do next. The evaluative devices the teacher uses should be largely diagnostic so that he can tell where each pupil has hit or missed the mark. The teacher must be careful to evaluate each person's progress toward each of the objectives in the unit of learning. The evaluating instruments should be prepared before the unit begins. A later chapter will discuss the preparation and use of such devices.

The flexibility of the teaching-learning cycle

Perhaps this description of the teaching-learning cycle makes it seem pretty rigid, but it is not so. It does not always roll forward relentlessly. In fact, it varies for each pupil. For some it speeds; for some it dawdles. For many it starts, stops, turns back, and then starts again. One group might well have finished the preparation of a dramatization and be ready to present it to the class early in the unit long before any other group is ready to share the experience. A good unit plan will be flexible enough to allow this group to present its dramatization then and there. After their performance the pupils may go on to some other activities. Thus the unit has passed from the laboratory phase to the sharing of experience phase and back again.

Explain the teaching-learning cycle. What happens in each part of it? What are the introductory phase, laboratory phase, pooling and sharing phase, evaluation phase?

PLANNING THE UNIT

Planning a unit and a unit assignment is a relatively simple matter. In general, the job can be reduced to the following steps:

1. Select the topic.

2. Select your goals or objectives, i.e., the skills, understandings, attitudes, ideals, and appreciations which you hope the pupils will learn from their study of the topic.¹

3. Prepare the unit assignment.

a. Select the teacher-pupil activities and subject matter by which the pupils will learn the learning products.

b. Select the activities and subject matter all pupils should do to some extent at least.

c. Select the activities which are to be optional.

d. Organize the activities into a plan. Prepare for pupil programming of their own work.

4. Plan and prepare the evaluation materials and exercises. Prepare tests. *NOTE: tests should be planned before the class starts the assignment.*

5. Plan, prepare, and secure the materials necessary for the activities.

a. Study and activity guides.

b. Special study and activity guides.

c. Teacher bibliography.

d. Pupil bibliography.

e. Audio-visual materials.

f. Equipment and supplies.

g. Reading materials.

The ensuing paragraphs will explain in more detail what each of these steps entails and how to carry them out.

Selecting the topic

Planning a unit is very much like planning any other type of lesson. First one must select a topic. For practical purposes the topic is the name of whatever you are going to study. It is sometimes advantageous to select an adolescent need or problem as the topic for study. In any case it should meet the criteria for topics suggested in the preceding chapter.

How can a teacher determine whether a particular topic is worth the time and effort?

¹Some authorities advocate first selecting one's objectives and then selecting the topic and activities which should bring the objectives about. However, the beginning teacher will find the present order much easier even though theoretically perhaps not as desirable.

It has been stated that the basic criteria for judging a topic are (1) the nature of the pupil and (2) the society in which he lives. Is this a valid statement? Why, or why not?

Where might one turn to find suggestions for suitable topics?

PLANNING THE OBJECTIVES

Preparing the objectives

After the topic has been selected the teacher must decide what learning the pupils should acquire from the study of the unit. This selection is the responsibility of the teacher alone. However, in carrying out his responsibilities and selecting the objectives, he can get tremendous help from supervisors, administrators, and faculty committees. Written materials which may be of help are courses of study, curriculum guides, source or resource units, and curriculum bulletins. If such are available the teacher should study them carefully. They are usually a fruitful source of ideas. Sometimes the objectives suggested in such materials can be used without any change. More often they must be adapted and revised. Sometimes they will not be suitable at all. The teacher should not let the objectives suggested in such material fetter him and stunt his creativity. He is the person who must decide what learning products he should strive for.

The pupils can help greatly by showing the teacher what they want to know. Knowing what the pupils wish to know allows the teacher to select learning products of value to them. They, of course, cannot themselves be responsible for selecting the learning products because they do not know enough about the subject.

Once the teacher has decided what the objectives of the unit are, he should describe them in writing. It is usually helpful if the teacher writes a general statement or overview of what he is hoping to accomplish. This can be in the form of a paragraph or two describing what is to be learned in the unit as in the following example from a unit in international relations entitled "From Empire to Commonwealth."

During the twentieth century there has been developing between the United States and the British Empire, now called the Commonwealth, a real friendship based upon our common language, customs, and traditions. The great English-speaking nations, including all the British Do-

minions, linked by friendship, have come to be recognized by the nations of the world as a tremendous force for keeping the peace and for success in war. Britain and the United States have many problems in common in dealing with colonial possessions, particularly those that wish to have complete self-government. In the period from 1919-1956 Great Britain changed from a solidly united Empire, one of the great powers of the world, to a great Commonwealth of Nations where the various parts that make up the whole are held together by reasons of trade and commerce.

Sometimes the overview may be given as a sort of table of contents as in the following unit on the machinist's square.

The understandings and skills desired as an end result for each pupil are: (1) the ability to manufacture a machinist's square using the hand tools found in the machine shop: the milling machine, shaper, drill press, power hack saw, and the pedestal grinder; (2) an understanding of the source, characteristics, value and properties of cold rolled steel, from the viewpoint of consumer and/or future fabricator; (3) an understanding and appreciation of the metalworking industry in present-day civilization in reference to materials and processes employed, finished products, and the resulting effect of these materials, processes and products on the worker and the consuming public; (4) an understanding and appreciation of the work performed by those employed in the metalworking industries and closely allied shops, with emphasis on the opportunities and requirements for employment in these industries; (5) to develop an understanding of some of the problems involved in common types of construction, and in repair and maintenance of machine and hand tools; (6) to develop an interest and appreciation of the methods and problems of industrial production; (7) to develop the ability to co-operate with fellow workers to attain mutual satisfaction.

At times the overview may be presented as a series of problems or questions presumably of importance to the pupil as in the following unit on woodcuts:

Why do people use woodcuts? Who first invented woodcuts? How does one make a woodcut? What tools do you need? What kind of wood do you need? What kind of tools are necessary? How do you use them? How do you prepare the block? How do you get the picture or design on paper?²

²These overviews have been adapted from units written by Dorothy Quigley, Errol Terrol, and Philip J. Agacinski, graduate students at the School of Education, The University of Hartford.

The teacher's specific objectives

After the teacher has described the nature and scope of the unit in the overview, he is ready to state the specific objectives of the unit. These objectives, as we have noted earlier, are the understandings, skills, attitudes, ideals, and appreciations which the teacher hopes the pupils will learn from the unit. Their selection is important. What to leave out is as important as what to include.

Since these objectives are the potential learning products of the unit, they should be stated as learning products; i.e., each objective should be expressed as a clear, declarative statement which describes a specific understanding, skill, attitude, ideal, or appreciation. Some authorities recommend that objectives be presented in infinitive phrases. However, questions and infinitive phrases are usually not satisfactory because they do not describe understandings or skills which should be learned. Rather they tell about the understandings or skills. For example, compare the following specific objectives prepared for a seventh-grade unit on graphs.

1. To understand bar graphs.

2. Bar graphs are usually used to picture a situation as it is at a given time. They use wide bars to represent quantities.

The first example is vague and general. It really tells us nothing. The reader has no way of knowing what the learning product desired in this instance is. The second example is a rather clear statement of what the pupils should understand about bar graphs. There is little doubt concerning this specific goal of the teacher.

If one does use infinitive phrases one should make an especial effort to be sure that they are clear and specific. "To understand bar graphs" could be changed to read, "To understand that bar graphs are usually used to picture a situation as it is at a given time."

Writing down the learning products as statements has several uses:

It ensures that the teacher has acquired the learning himself. A teacher who cannot describe the learning probably has never learned it thoroughly himself.

It gives the teacher a definite goal for which to aim.

It gives the teacher a standard by which to evaluate pupil achievement.

It helps to eliminate fuzzy thinking about the learning and thus

helps to avoid soft pedagogy—i.e., pedagogy which results in no learning or little learning.

Listing the specific objectives

In listing the specific objectives, any order that seems desirable to the teacher may be used. Probably to arrange the list in a logical order will help the teacher better to understand his goals and to organize his thinking. In no circumstances should the list of specific objectives be an attempt to indicate the order in which the pupils will learn them. That sequence is a matter for each individual pupil.

However, some teachers find it helpful to list the skills, understandings, appreciations, ideals, and attitudes separately under definite headings. Although it is not essential, doing so seems to make it easier for the teacher to visualize his goals. The following are a few specific goals selected from the international relations unit "From Empire to Commonwealth" quoted earlier in the chapter.

Understandings:

1. *Strong ties of friendship have developed between the United States and Great Britain during the twentieth century.*
2. *These ties which draw the United States close to the Commonwealth are based upon our common language, customs, and traditions.*
3. *The American State Department, beginning with the days of John Hay and continuing to the present, has cooperated with the British Foreign Office in matters of international importance to both nations.*
4. *The English-speaking nations have been a force for keeping the peace of the world as evidenced from the Hague Court, the World Court, International Conferences and the United Nations.*
5. *The English-speaking peoples have banded together in wars of recent times, World Wars I and II and the Korean War, to carry on successful campaigns against aggressor nations who threatened the peace of the world.*

Attitudes, Ideals, Appreciations:

No nation can depend entirely on itself.

The British people have done many noteworthy deeds and are worthy of respect.

Cooperation is more desirable than warfare in international relations.

In international affairs as well as private affairs one should deal justly with all—powerful or weak.

One should respect the rights and feelings of others.

Criteria for good objectives

In selecting the objectives for a unit the teacher should ask himself several things. Among the most important are:

1. Is this objective pertinent to this course? If not, no matter how earth-shaking it may be, it is obviously not valid.
2. Is it a specific understanding, skill, attitude, ideal, or appreciation? Except for certain physical skills that seem to defy description, the authors recommend that these be clearly stated in declarative sentences. If not, they are liable to be too nebulous to be adequate.
3. Can it be achieved in the time allotted? If not, it should be re-examined. Perhaps only a portion of the goal should be attempted.
4. Is it worthwhile and is it the most worthwhile of the possible objectives? If not, perhaps the teacher should change his objectives.
5. Is it suitable for the level of the pupils? If it is too hard or too easy, it can cause the unit to fail.
6. Does it allow for individual differences? Unless the objectives allow some pupils to achieve more than others or in different ways from others, the unit cannot succeed.

Do you agree with the authors that the teacher's objectives should be presented as learning products written in declarative sentences? Why, or why not? Give arguments both for and against.

Apply the criteria cited above to the following objectives in a biology unit on infectious disease, prepared by a student teacher.

Overview

Infectious diseases are caused by parasitic bacteria which succeed in overcoming body defenses and enter the body of the host.

Certain hygienic and sanitary procedures are necessary for the prevention and control of disease.

Specific Objectives

Understandings:

1. Infectious disease is disease caused by parasitic microorganisms.
2. A parasite is a dependent organism which gets its food directly from another organism, the host.
3. Bacteria are very simple one-celled plants classified into three main categories, the cocci, bacilli, and spirilla, by virtue of their form.
4. Bacteria reproduce by simple cell division or by spore formation.
5. All disease-producing bacteria are called pathogens.

6. Infection takes place when disease germs overcome body defenses.
7. There are many ways bacteria enter the body of the host. Among these are the nose, mouth, breaks in skin, eyes, ears, and the digestive tract.
8. The incubation period is the period between time of exposure to infectious disease and its development.
9. A contagious disease is one that is readily transmitted by direct or indirect contact between a diseased individual and one who is healthy.
10. Transmission of bacteria from one individual to another takes place through the following means: spit, spray, dust, air, contact, handkerchiefs, towels, utensils, food, water, insects, and animals.
11. Favorable conditions for bacteria are presence of organic matter (food), moisture, and moderate temperature.
12. Unfavorable conditions are dryness, extreme cold (not fatal), high temperature, sunlight, and chemical poisons.
13. To protect himself, the individual should
 - a. Avoid taking into the mouth water, food, etc. that may have been exposed to infection.
 - b. Maintain personal cleanliness.
 - c. Avoid use of common towel, cup, etc.
 - d. Disinfect cuts, wounds, etc.
 - e. Avoid contact with known or suspected cases of infectious illness.
14. To protect others we should
 - a. Avoid spitting where germs may be carried away.
 - b. Cover face when coughing or sneezing.
 - c. Avoid touching food, dishes, etc. to be used by others.
 - d. Protect food, water, etc. from dust.
 - e. Cooperate with home and community in maintaining sanitary conditions.

Abilities:

1. Ability to use compound microscope.
2. Ability to prepare slides for microscopic examinations of bacteria.
3. Ability to prepare materials for simple experiments with bacterial cultures.

Attitudes:

1. A favorable attitude toward observing habits of personal cleanliness in order to prevent the spread of disease.
2. A favorable attitude toward desirable and healthful practices in the home in order to prevent spread of disease.
3. A favorable attitude toward maintaining and observing health rules and regulations in the community for the preservation of health and the prevention of the spread of disease.

PLANNING THE UNIT ASSIGNMENT

After the objectives have been chosen and described, the teacher must plan the activities by which the class may achieve the objectives. These activities are the heart of the unit. If they are not carefully planned and organized, the chances of the unit's being successful are reduced to zero, since it is through the activities that the learning products are gained. The organization of the activities is the unit assignment.

Selecting the activities

To develop a unit assignment one must first identify the activities one might use to achieve the desired learning. These activities will fall into two groups:

First, the activities which would help all pupils to reach the objectives and should be done to some extent sometime before the completion of the unit. These we shall call the basic activities.

Second, those activities which should help some youngsters reach the objectives but need not be attempted by all pupils. These we shall call the optional related activities.

The earmarks of a good activity

What kind of activities should the teacher select? In the first place, *each activity should contribute directly to at least one of the teacher's objectives.* Time is too precious to waste on any activity not worthwhile. Busy work wastes time; aimlessness discourages learning. The school can afford neither.

This brings us to the second criterion: *The activity should seem worthwhile to the pupil.* That the activity should be worthwhile is obvious, but that it must seem so to the pupil is perhaps not so obvious. Yet if the activity does not seem worthwhile, the pupil will not participate with maximum effort and no one can make him. The result is an inefficient teaching situation.

Maximum effort is often stimulated by challenging, thought-provoking situations. A third criterion, then, is: *The activity should be stimulating and thought-provoking.* To be maximally effective pupil activities should relate to the life of the pupil; for example,

work in other courses, extracurricular activities, social functions, and home life. Thus a fourth criterion is: *The activities should relate to the pupils' aims and interests, and pertain to their lives both in school and out.*

One authority on the unit says that the unit assignment should consist largely of a series of problems. Do you agree? What would the advantages be?

Organizing the unit assignment

After the possible activities have been assembled the teacher must organize them into the best possible sequence for the teaching-learning situation. In organizing these activities, the teacher must allow for such things as the time available; the ability level of the pupils and their interests; the nature of the subject matter; the local school situation including rules, equipment, opportunities, and materials available. At this point the teacher may find that he should eliminate certain activities and add others. When doing this, he should always be careful to consider his objectives.

The organization arranged by the teacher before the class begins the unit must be flexible. It must allow the boys and girls opportunity to follow their various bents and to give each of them a chance to participate in the planning of the sequence of activities most desirable for him. No teacher can tell just what is going to happen in any class, so the plan must allow for any contingency. As the pupils progress, both teacher and pupils may want to change the sequence of activities to fit the situation as it develops. Frequently, current events, school, local, state, or national, will make a change in plan desirable and profitable.

The basic activities

The activities in which every boy and girl should participate may be called basic activities.* These should be prepared so that all the pupils may have experiences suitable to their own levels. At least some of the activities should be appealing to the nonacademically minded youngsters. Many teachers reserve all the interesting

* Another name for these is core activities. We are using the term "basic" in order to avoid confusion with the term "core curriculum."

project-like activities for optional related activities or extra-credit work after the required work has been finished. This is poor practice. The youngster who needs stimulation never has a chance to do anything stimulating.

The pupil should be able to reach all of the teacher's specific objectives by way of the basic activities. To be sure that the activities really do contribute to all of these learnings, the teacher should note just what learning product or products each activity is supposed to produce. This practice will help ensure that each activity does contribute to some objective and that all the objectives are provided for.

The optional related activities

Optional related activities are activities which boys and girls may do if they wish. They should be truly optional. No pupil should be required to do any of them, although an effort may be made to interest particular pupils in specific optional related activities which might be particularly beneficial to them. The pupil's mark should not depend upon the pupil's completing any of them. If a pupil starts an activity which proves to be distasteful, the teacher may allow him to drop it if it seems desirable.

In a sense the optional related activities are projects. The pupils should be encouraged to suggest other activities not yet included in the unit assignment. Often pupil-suggested activities are the best of all.

Optional related activities are not necessarily activities to be done after the basic activities have been completed. A pupil might well start with an optional related activity. This is particularly true when the pupil has been difficult to interest in that subject or has a special flair.

How can a teacher provide for individual differences if he prepares a unit assignment in advance?

Should optional related activities be done only by the brilliant students who finish early?

The study and activity guide

In order that the pupils may know how to proceed throughout the unit, each should be given a mimeographed study and activity guide. This guide should include the instructions for each core activity, except perhaps such activities as listening to a teacher talk.

Since the activities in the unit should be largely problem solving, the guide should consist mostly of questions, problems, and projects designed to stimulate thinking and investigating by the pupil. These should be presented in enough detail to allow the pupil to proceed on the activities without constantly resorting to the teacher for help. On the other hand, they should not be so detailed as to be recipes. Too detailed instructions of the recipe type can destroy initiative and prevent thinking. For instance, instead of saying:

Mix X and Y in a test tube. A precipitate should form. This is Z.

One could say:

Mix X and Y in a tube. What result do you observe? What should result? See references 10 and 13.

Or again, instead of saying:

Who said, "Give me liberty or give me death"?

A study guide might ask:

What was the importance of Patrick Henry's speech and what effect did it have on American history? Why did Patrick Henry say what he had to say? If you had been a member of the House of Burgesses how would you have reacted?

Some modern theorists decry the use of study guides on the basis that study guides may limit the creativity and originality of the pupil. To some extent this is true, but a good study guide seems to have advantages which outweigh the disadvantages.

1. They give the pupil a source to which he can refer if he forgets his assignment.

2. They give the pupil a picture of what activities he might want to do so that he can pick his choice of activities and the order in which he wishes to do them.

3. They give the pupil a definite assignment so that he can go ahead to new activities on his own without waiting for a new assignment from the teacher.

4. They give definite instructions which should eliminate misunderstandings about assignments and many excuses for incomplete or unattempted assignments.

A sample study and activity guide

This guide was developed for a unit on race relations in a twelfth-grade class in Problems of Democracy.

GENERAL STUDY AND ACTIVITY GUIDE

1. What are the various groups that make up the population of the United States? 2:42-45 *
2. Make a classification of the different groups and give numbers. 14:521-527
3. What is the composition of our population in Middletown?
4. What are the various sects (religious) in the United States? 1:101
5. Give the names and numbers of the ten highest. 1:101
6. How many of these religions are represented in Middletown? In Middletown High School?
7. How have these various groups affected the growth and development of the United States? Name the contributions of these groups. 14:512-517, 521-524
8. What are some of the problems of harmonious relationships between different races and groups? 14:498-502
9. When is a group regarded as a minority? 6:582
10. How does prejudice destroy harmony between groups? 6:586-587
11. What is prejudice? 26:Ch. 1
12. How do we get our prejudices? 26:16; 22:29-33
13. What are the principal races in the world? 6:84-89
14. What is the meaning of discrimination? 6:89
15. Give one example of political, social, and economic discrimination from your own experience.
16. How can we improve on the existing efforts to destroy prejudice and discrimination?
17. What is the work of the Massachusetts Fair Employment Practice Commission?
18. What can you do to prevent discrimination?
19. Name four types of groups which are often regarded as minorities. 6:582-606
20. What is the dominant group in America? 6:582-606
21. What constitutes the differences between groups? 6:606
22. Name the effects of prejudice on the person who practices it. 27
23. Discuss the relationship of prejudice to Democracy. 27
24. Is there such a thing as "racial superiority"? Explain your answer. 6:84-95
25. Make a full report in writing on social adjustment involving the immigrant.
26. Read the Roll of Honor in your neighborhood for World War II. Copy ten names at random and try to determine their ancestry. Conclusion.

* These numbers refer to readings which the pupil may consult to find the answers to a particular problem.

List of materials and bibliography

As part of each study guide the teacher includes a list of any materials which are needed by the students, and a bibliography. The bibliography should consist largely of materials at the reading level of the pupils. However, there should be books difficult enough to challenge the brightest pupils, as well as others for the slow learners. References in the text may be keyed into this bibliography by a system similar to that illustrated on page 98.

Lists of materials required for specific activities should be part of the description of the activity. If including the list makes the description of the activity too long, the detailed description may be filed on 4 x 6 or 5 x 8 cards or placed on the bulletin board, thus keeping the size of the study guide reasonable.

Should all pupils begin at the beginning of a unit assignment and proceed with the suggested activities in order? Why, or why not? If not, how should they proceed?

At what point and how much should the pupils plan the unit assignment or their part in it?

Special study and activity guides

Usually the optional related activities should be described by title and perhaps a brief notice in the study and activity guide or on a bulletin board. This serves to make the pupils aware of optional related activities which might interest them. Detailed instructions for such activities can be kept on 5 x 8 or 4 x 6 file cards. Should a pupil spot an optional activity which seems challenging to him, he can go to the file and study the card. If the activity seems to be worthwhile, he can then elect to carry it out with the teacher's permission. This means, of course, that several cards must be available for each activity. If this seems impossible, the pupil can himself copy the instructions.

Another type of special study guide is that which is prepared to help the pupils get more out of such activities as field trips and moving pictures. Such special activity and study guides are used to point out the things that one should observe and the things one should investigate in such activities.

The following is an example of a special guide for an optional activity in the *Problems of Democracy* unit on Race Relations described earlier in the chapter.

REPORT ON AMERICANIZATION WORK IN MIDDLETOWN

1. Interview Mr. Rand in room 310. Mr. Rand is head of the evening school in Middletown. Ask him questions along this line and take notes on his answers.
 - a. What is the work of the Americanization classes?
 - b. Who teaches these classes? What are their qualifications?
 - c. What people are eligible for these classes?
 - d. Why are the classes necessary?
 - e. What subjects are taught and why?
 - f. When a person completes the course what happens?
 - g. How long does this course last?
 - h. Who pays for it?
 - i. What is the attitude of the people in the class toward America?
 - j. How many people in Middletown have completed the course in the last ten years?
 - k. Where do these people come from?

Write up the answers in the form of a report and submit it to the teacher for approval. Indicate whether you would be willing to give the report to some other class if called upon to do so.

The teacher's list of materials, equipment, and readings

The teacher should also prepare for his own guidance, a list of materials, equipment, audio-visual aids and readings pertaining to the unit. It indicates the materials and equipment that are needed and references the teacher should read to ensure that he has been properly prepared.

The daily lesson plan in the unit

The unit plan does not eliminate daily planning. Before each class the teacher must think through what is to be done that day and jot down the agenda for the day. This plan will include such things as: announcements, programs of activities, reminders to work with certain pupils or groups, notes for teacher talks, and the like. Since the major part of the planning has been taken care of by the unit assignment the daily plan may be quite sketchy and informal, although many experienced teachers prefer to use detailed lesson plans as described in the preceding chapter.

What part of the unit assignment should be placed on cards or on the bulletin board? Why?

What is the use of a study guide? Some authorities do not approve of using study guides. Do you?

What is the use of a special study guide?

SUMMARY

The following is an attempt to outline the suggested steps in preparing a unit.

1. An overview which describes the nature and scope of the unit.

2. The teacher's specific objectives which are the understandings, skills, attitudes, ideals, and appreciations the teacher hopes his pupils will get from the unit.

3. The unit assignment which includes activities in which the class will participate during the teaching of the unit. The activities will be of two types: (1) the basic activities to be done by all pupils to some extent in some time and (2) the optional related activities.

4. The study and activity guide which will contain the instructions for carrying out the core activities to be done individually and in small groups.

5. The special study and activity guides which contain the instructions for carrying out the optional related activities.

6. A list of materials and readings which the boys and girls may use in their study.

7. A short bibliography and list of materials for the use of the teacher alone.

8. A test to be used in evaluating the success of the unit. This test should test adequately each of the learning products described in 1 and 2 above.

The unit assignment should be introduced by introductory activities which will catch the pupils' interest and help the teacher know the pupils. Following the introductory phase comes individual and small group work interspersed by class activities. After this laboratory phase the pupils share their experiences and learnings. The culmination of the unit of work is an evaluative exercise. In practice the four phases of the teaching-learning cycle do not always follow in regular order, but vary to suit the occasion. Arranging the classroom as a laboratory increases the effectiveness of the unit assignment and the teaching-learning cycle.

FOR FURTHER READING

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- Risk, Thomas M., *Principles and Practices of Teaching in Secondary Schools*, Third Edition, American Book Company, New York, 1958, Chs. 10-13.
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CHAPTER 6

Some specific teaching techniques

The skillful teacher has many methods and techniques at his command. Although some of these are better than others, not one of them can be regarded as the best, for there is no best technique. In fact, techniques which are good for one subject or for one group of pupils may be quite unsatisfactory for another. The teacher should have many strings to his bow, so that he can select techniques and methods suitable to his own personality, to the pupils in his class, and to the subject he is teaching. For example, in a French class one should undoubtedly teach conversation by group techniques, but pupils can probably master irregular verbs more readily through individual study. This chapter will attempt to show how some of these methods and techniques may be used to advantage.

LECTURES AND TEACHER TALKS

The history of the lecture method of teaching is a long and honorable one. It seems to be fashionable in some circles to deride the lecture—largely because of a reaction against its long years of misuse and overuse—but the lecture has been used with success in the past, it is being used with success in the present, and will no doubt be used with success in the future.

Preparing the lecture

In secondary schools teachers would probably do well to avoid formal lectures. Nevertheless, the teacher will find that the teacher talk, whether formal or informal, is indispensable for introducing activities, motivating pupils, pointing up important concepts, explaining difficult points, summing up, and similar purposes. Moreover, as long as the lecture is the predominant form of teaching in our colleges, college-bound boys and girls should have considerable experience with lectures in the last stages of their high-school careers. It goes without saying that this experience with lectures should be accompanied by instruction in how to profit from lectures, most particularly in the art of taking notes. In spite of these exceptions, most teachers find that, on the whole, the formal lecture is a rather ineffective method of teaching secondary-school pupils.

As a general rule secondary-school lectures should be short. A twenty-minute lecture is quite often more than a high-school class can stand. Usually short talks of about ten minutes' duration are more acceptable. The ability of a group to benefit from a lengthy lecture varies, of course, with the maturity of the pupils and the excellence of the lecture.

In any case the lecture should be well planned. Not only must the speaker plan what he wishes to say, but he should also plan how he intends to say it. If possible, it might even be wise to practice the lecture before the bedroom mirror.

Why is the lecture considered to be a poor technique for use in secondary schools?

You have been assigned a ninth-grade general science class. This class consists largely of slow learners. It has a reputation of being "hard to handle." The youngsters are restless and not much interested. How much would you plan to lecture to such a group? What might you be able to do to hold the attention of such a group?

Making the lecture clear

In lecturing, one should attempt to be clear and persuasive. The capable lecturer limits his talk to a few salient points. This will often drive the points home, whereas attempting to cover too many points may only confuse. Including illustrations, audio-visual aids, and demonstrations in one's planning of a lecture may help to clarify and point up the lecture further.

Clarity also depends on one's use of language. Beginning teachers and student teachers are inclined to talk over the heads of their pupils. Concepts and words commonplace to college seniors and recent graduates may be foreign to high-school pupils. Although the teacher should avoid talking down to his pupils, he should be careful to talk to them in language they understand.

The language used should be good English, however. Some teachers attempt to reach the pupils' level by introducing slang and colloquial expressions into their talks. This is usually a poor policy. Slang and over-informality are more likely to cheapen a lecture than clarify it. Furthermore, the teacher, willy-nilly, is a model of English oral composition whenever he speaks. If his influence on the pupils is to be a good one, he must, perforce, see to it that his language is the type that he wishes the pupils to imitate.

The use of illustrations and figures of speech often makes lectures clearer and livelier, but their injudicious use can at times defeat their purpose. Particularly treacherous in this respect is the metaphor, which can surely be a two-edged sword. With high-school pupils—particularly the younger and duller ones—a teacher should call things by their proper names and leave flights of poetic fancy to others. Certainly if one must use such figures of speech, one must be sure that the pupils understand to what the figures allude. Not to do so may spoil the entire lecture.

For what purposes would you plan to use lectures in your secondary-school teaching? What kinds of lectures are there? How can they be used?

How does one plan a lecture or informal talk? Consider objectives, outline, illustrations, motivations, length, aids, clarity, interest.

How can one tell whether a lecture or talk has been successful?

CONDUCTING PRACTICE ACTIVITIES

Drill, practice, and review

Sometimes one can learn something quite thoroughly as the result of one single experience. Some learning experiences are so powerful and vivid that one experience is enough for firm retention. Unfortunately, such experiences are rare in the classroom. More often the learning must be renewed through drill, practice, or review.

The differences in these words are largely differences of connotation. Drill ordinarily connotes emphasis on unthinking, mean-

ingless repetition, whereas practice seems to connote more purposeful, varied repetition. Review, of course, implies a second look at what has been learned once before. By implication it is often thought of as less intense than drill or practice. For purposes of this book there seems to be little merit in drawing distinctions between drill and practice. We shall use the word "practice" to denote repetition of this sort.

The value of repetition

Repetition has several uses in our schools. One of them is retention. It is imperative that some things be learned so well that they shall not be readily forgotten. Every normal youth should know multiplication and every boy who studies chemistry should know that Cu SO_4 means copper sulphate. To be sure that one does not forget, learning must be renewed often—much more frequently than is necessary for immediate recall. This repetition is called overlearning. One major purpose of practice is to provide the overlearning necessary for retention. This aspect of practice is essential in memorization. Overlearning is also important in making behavior automatic and in creating desirable habits.

Another use for practice is to increase skill. The great pianist repeats his exercises and practices his concert selection time and again. A careful observer would note that as he repeats a selection, he tries to play it more accurately, or with more feeling. In other words, the pianist tries to improve by repeating the selection in a different way. No one can repeat anything exactly as he did it before. Because it allows one a chance to vary his behavior, practice makes it possible for one to improve.

Practice can also increase one's understanding. As one repeats and renews the learning, the concepts may become much clearer. Just as in the high jump the jumper, through diligent practice, may learn to get his hip up and over the bar, so one may acquire new insights by restudying a topic. This can be done only if the repetition is meaningful, purposeful, and varied. New skills and new concepts seldom result from dull, dry, aimless repetition.

Why is repetition necessary in school learning? What sort of things are best learned through drill techniques? Which are not?

Why was the traditional drill class ineffective? How can drill be made effective?

Making practice meaningful

In a very real sense, one does not learn through drill or practice. Practice merely consolidates, clarifies, and emphasizes what one has already learned.¹ Therefore, before practice sessions start, the pupil should understand what he is doing and how to do it. Repeating meaningless words or actions is useless. When one knows what copper sulphate is, or when one understands the meaning of the verb, this is the time to overlearn $\text{Cu SO}_4 = \text{copper sulphate}$, or to conjugate the verb *amare*.

Repetition is usually more meaningful in context. Pupils often find it difficult to understand just what they are doing when the material to be learned is isolated from its context. Therefore practice should occur in as real a setting as possible. For instance, to practice foreign words in sentences and in conversation is probably more effective than to practice them in isolated lists.

Practicing by wholes rather than by parts also makes practice more meaningful. In practicing something very difficult or involved, one may need to practice the difficult parts separately, but, in general, one should practice the whole thing. Because no part is learned at the expense of the others, the learning becomes a unit. For example, in practicing the crawl a pupil may need to concentrate on his kick or his breathing separately; he must also practice the entire stroke if he wishes to swim well. In memorizing a passage, one can usually learn most efficiently by the whole or part-whole method. If the selection to be memorized is short, memorizing the whole thing is recommended; when the selection is long, it should be divided into meaningful divisions, each of which can be learned separately. One might learn a sonnet as a whole, but a longer poem stanza by stanza.

For similar reasons practice should be a part of the regular classwork, not a special session. This gives practice its proper proportion and emphasis. Practice seems to be most successful when it consists of many different types of activities in many classes rather than monotonous repetition. Similarly, learning is usually more efficient when practice is spaced over a period of time with rather frequent breaks than when it is concentrated in long, continuous practice sessions.

¹ The reader will, of course, realize that this, too, is learning.

Motivating practice sessions

Because of its very nature practice needs to be well motivated. Moreover, practice should always occur under some pressure. The pressure should not be onerous, but it should be heavy enough to be felt so that the pupil will strive to improve. Lackadaisical practice is wasteful practice.

The hunger to learn is probably the most desirable motive, but it does not always seem to be present. Sometimes the teacher needs to use devices designed to make practice more attractive. The use of games, either individual or competitive, often serves the purpose admirably. Occasionally, someone objects to using competitive games in the classroom. However, if one takes care to make them fun for all and to eliminate petty glory-seeking, such games have a place. Individual games that can be used include such things as anagrams, authors, crossword puzzles, and other puzzles of all sorts. These can be played as "solitaire"; but some of them can be competitive as well. Group games such as charades and "baseball" and "basketball" in which the questions take the place of base hits and field goals are also effective. In fact, almost every parlor game can be adapted for classroom use.

In utilizing such games, the teacher should be careful to include only the pertinent and important. He should be particularly wary of pupil-developed questions. Pupils too often search for the trivial and the obscure. Games which feature such questions help very little and should be avoided. Teachers should also avoid games which eliminate those who make errors. The old-fashioned spelling bee is not very useful because the people who need the practice most are eliminated early.

Using the principle of spaced learning

In connection with the motivation of practice, one finds the principle of spaced learning. In general, relatively short periods of practice separated by intervals of rest seem to be better than long periods of concentrated practice. Psychologically speaking, the reasons for this seem to be that the intervals of rest allow the mistakes to die out, and that one can keep up a high degree of motivation for short practice periods.

As the learning becomes more firmly entrenched, the practice

periods should become shorter and the intervals longer because not so much time is needed to renew the learning. This also helps to keep the practice from becoming too deadly.

Eliminating unnecessary drudgery

Practice can be dreadfully boring, as we have all learned to our sorrow. To keep it from becoming so, the teacher should eliminate as much unnecessary work as possible. If the exercise is to punctuate a paragraph, to copy the entire paragraph is pointless. Indicating the words preceding the punctuation should be enough. It is better still to mimeograph the paragraph and punctuate directly on the mimeographed sheet.

For this very reason practice or drill should not be used unnecessarily. Teachers need to bear down on some things but not on others. If one emphasizes the drill aspect too much, one runs the risk of making the class unnecessarily boring. Therefore hard practice should be reserved for important learning which needs to be habitualized or to be retained a long time. In other words, one should concentrate practice on a few skills.

Since memorizing is at best a dreary pastime, teachers should not demand that pupils memorize things that they need not remember. There are quite enough things a person should know by heart without loading pupils up with unnecessary memorization.²

How might one adapt a spelling bee to give everyone plenty of practice?

How can one avoid the poor attitudes which often accompany drill?

Why is it recommended that practice should always be under some pressure?

Individualizing practice

If practice is to be really valuable to pupils, it should be individualized. To find a practice exercise valuable and important to every teen-ager in your class is virtually impossible. Almost invariably some of the pupils will have mastered the skill to the point where it would be better to move on to something else. On the other hand, other pupils probably do not understand well enough so that they can truly benefit from the practice at all. So, except for such

² By this we do not imply that pupils should never have an opportunity to learn a poem by heart for the pure pleasure of knowing it.

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Individualizing practice

If practice is to be really valuable to pupils, it should be individualized. To find a practice exercise valuable and important to every teen-ager in your class is virtually impossible. Almost invariably some of the pupils will have mastered the skill to the point where it would be better to move on to something else. On the other hand, other pupils probably do not understand well enough so that they can truly benefit from the practice at all. So, except for such

*By this we do not imply that pupils should never have an opportunity to learn a poem by heart for the pure pleasure of knowing it.

things as military drill and similar mass group exercises, group practice should be used sparingly. Instead, practice should be tailor-made for each pupil.

To individualize practice is easier than it sounds. Since practice ordinarily consists of experiences designed to strengthen learning already acquired, the teacher can leave much of the teaching to the pupils themselves. By providing self-administering and self-correcting materials and arranging situations in which pairs and small groups can work together correcting and helping each other, the teacher can make it possible for each pupil to arrange his own work so that he can concentrate on the practice most important to him.

For this reason diagnosis, particularly self-diagnosis, is an important aid to effective practice. As the pupil realizes his weaknesses, he is more likely to see the necessity for practice. Then, if his practice is rewarded by visible progress, the young man may willingly redouble his efforts. Nothing is so encouraging as success.

An example of such a practice technique was one used in the teaching of ninth-grade grammar. In this class the teacher supplied the pupils with a multitude of exercises designed to give practice in each of the areas studied in grammar. Before studying each grammatical topic, the pupil took a pretest to see how well versed he was in the area. If he scored very high in the pretest, he could skip that topic and go on to another; if he did not, he practiced the exercises for that topic until he thought he had mastered the material. As he finished each exercise he corrected his own work, sometimes consulting a teacher or a neighbor about why such and such was so. When he thought he was ready, he tried another test. When he had demonstrated by the test scores that he was the master of that topic, he was allowed to move on to the next one. Of course, the teacher administered the tests and made himself available to help and guide the pupils with their practice. The result was a busy class working on those exercises which most concerned them.

REMEDIAL TEACHING

Teaching designed specifically for boys and girls who have not achieved desired goals is called remedial teaching. Many teachers seem to think there is something esoteric about remedial teaching. There is not. Remedial teaching is merely good teaching concen-

trated on the pupil and his needs. Usually it is more effective than ordinary teaching because it is more concentrated and has better direction.

Some teachers seem to feel that remedial teaching should be reserved for extraordinary pupils and for remedial classes. Nothing could be further from the truth. It is probably no exaggeration to say that every youth needs remedial teaching at one time or another. Remedial and diagnostic teaching should be a part of every unit. This is relatively easy to do if evaluation is continuous and the teaching concentrates on the youth rather than on the subject matter.

Diagnosing the difficulty

If we know exactly what skills, concepts, attitudes, ideals, and appreciations we are striving for, it should be relatively easy to construct devices which would tell us whether or not those concepts, skills, attitudes, ideals, and appreciations have been developed. An objective or essay-type test constructed by the teacher can be excellent for showing whether or not the pupil understands, if the teacher chooses the questions carefully. However, the teacher frequently will find it necessary to rely on evaluative devices other than tests to get at these learnings. Examples of these devices may be found in Chapter 10.

Reteaching poorly learned material

In the regular class remedial teaching consists ordinarily of reteaching those things that boys and girls have not learned. For instance, if the boys and girls as a whole do not seem to understand what a fulcrum is, this should probably be repeated for all. If only a few persons did not get it, they should probably be re-taught in a special group. If it becomes evident that just one youngster missed it, he should be retaught individually. To reteach in this fashion may mean spending several days with the entire class on the missed learning, or revamping the next unit to include this learning again, or just a few minutes of review and explanation, or a short conference with one pupil. Similarly, when it is found that boys and girls lack basic knowledge prerequisite to any unit, the teacher must take time to reteach this understanding. In cases of this sort the ordinary techniques of teaching suffice for

remedial teaching, if they are carefully aimed at the trouble. Remedial teaching is aimed firing; barrage techniques will not do.³ Actually, this type of remedial teaching is little more than providing for individual differences; the techniques explained in Chapters 3 and 5 should be very helpful.

The following will serve as an example of remedial teaching in the regular classroom. In going over the test papers of one of his mathematics classes, the teacher noted that one of the pupils was having considerable difficulty with the problems. An analysis of her papers showed that the pupil was neglecting to convert all the parts of the problem to the same terms. At the next class meeting the teacher pointed out to the pupil the error she was making. He then quizzed the girl to see that she understood how to convert from one unit to the other, and assigned to her several special problems by which to practice the technique directly.

Of what value can self-correcting exercises be in remedial teaching?
In what ways is remedial teaching different from regular teaching?
How can practice materials be utilized in remedial teaching?

Teaching the seriously deficient

More serious cases often turn up. These require more careful handling. Frequently these disabilities warrant remedial teaching by specialists outside of the regular classroom. When such help is available the teacher should use it. However, the teacher must be ready to help himself, since some schools limit remedial classes to pupils who are retarded at least three years, and many schools have no such services at all. Moreover, many of the problems are not so serious that the regular classroom teacher cannot take care of them competently.

For instance, we find quite often that one reason a pupil is having trouble with higher mathematics is that he never mastered his arithmetic essentials. If this is the case, one should test him to find out what the actual fault is, then teach him how to do the specific arithmetical process properly, and finally give him plenty of practice until he has mastered the difficulty.

On another occasion, a pupil seemed to have a great deal of

³Barrage firing is firing in which the artillery or missile unit covers an entire area with fire thereby hoping to deny the area to the enemy and to destroy any already there.

trouble with punctuation. The teacher attempted to see what caused the difficulty. Upon examination he found that the pupil knew the rules for punctuation well enough, but that he did not seem to know how to apply them. To correct this fault the instructor arranged a series of lessons in which the pupil learned to translate the rules into terms he understood, and then prescribed exercises designed to apply these rules to sentences.

As in any remedial situation, correcting severe disabilities depends upon careful diagnosis and careful reteaching. Techniques suitable for such special classes are beyond the scope of this text. Teachers would do well to take special courses in this area and read some of the excellent books on the subject.

USING QUESTIONS

Uses of questions

Throughout the course of educational history the question has been one of the most common, if not the most common, of teaching techniques. It continues to be so in spite of modern changes in educational theory, for it is a fine tool both for checking memory and understanding, and getting at higher learning. It has many uses in the modern classroom.

Among these uses we find the following mentioned in textbooks on teaching:

1. To find out something one did not know.
2. To find out whether someone knows something.
3. To develop the ability to think.
4. To motivate pupil learning.
5. To provide drill or practice.
6. To help pupils organize materials.
7. To help pupils interpret materials.
8. To emphasize important points.
9. To show relationships, such as cause and effect.
10. To discover pupil interests.
11. To develop appreciation.
12. To provide review.
13. To give practice in expression.
14. To reveal mental processes.
15. To show agreement or disagreement.

16. To establish rapport with pupils.
17. To diagnose.
18. To evaluate.
19. To obtain the attention of wandering minds.

Can you think of a question to illustrate each one of the purposes mentioned above? After you have formed the questions, test them against the criteria in the following section. How well did you do?

Attend a class in a school or college classroom. Observe the teacher's use of questions. What techniques were used? Were they successful? Why, or why not?

The good question

Most of this section refers specifically to oral questions. However, it can apply just as well to written questions as to oral ones. That is true of the following criteria for the characteristics of the good question. These criteria are few in number; yet if every teacher question lived up to them, teaching, even by master teachers, would improve marvelously.

First of all, *a successful question asks something definite in simple, clear, straightforward English that the pupil can understand.* Therefore one must be careful to avoid ambiguity, confusing constructions, double questions, parenthetical remarks, and other verbiage which might cause the pupil to lose the point of the question.

Vague generalities like, "How about the French?" are usually not very valuable in promoting any of the learning which the lesson is trying to promulgate. In other words, *the good question gets at a definite point consistent with a goal of the lesson.*

A main purpose of questioning is to stimulate learning. A good question challenges the pupil to exert his intellect. To do so the question must make him think. Questions which can be answered by merely repeating some fact from a book can never be as stimulating as thought questions. In fact, as often as not, they are not stimulating at all. *A good question, then, is challenging and thought-provoking.*

A good question is consistent with the aims of the lesson, as well as being consistent with the abilities and interests of the pupils. There is no great point in embarrassing or frustrating a youngster by asking him questions which he cannot answer. Neither is

there much point in allowing bright youths to slide along on easy questions without stretching their intellects. Moreover, the teacher can harness the interests of various pupils by asking them questions which appeal to their special interests. For instance, the 4-H farm boy who raises stock could contribute lustily to a social studies unit on the country's resources or a general science unit on conservation. He might even be able to make a considerable contribution concerning "the lowing herd [which] winds slowly o'er the lea." In short, *the good question is adapted to the age, abilities, and interests of the pupils to whom it is addressed.*

It has been said that a question should be couched in language considerably easier than the pupils' reading level. Do you agree?

Of what value is a question answerable in one word?

Suppose that one of your purposes is to stimulate the pupils' thinking. How can this be done by questioning? Just how would you word the question? Prepare some examples and try them out.

A prerequisite to good questioning

From the foregoing account it seems evident that questioning requires skill and preparation. Good questioners usually carefully brief themselves on the subject under discussion and prepare key questions in advance. Although some teachers seem to be able to put well-worded questions at the spur of the moment, to do so is quite difficult. The teacher who prepares in advance will usually be more successful.

Techniques of good questioning

The notion of the teacher as a grand inquisitor attempting to catch the recalcitrant pupil is foreign to the modern class. Questioning should be thought of as a way to get at the problems we are trying to solve—not as an attempt to see how much the pupil knows. An inquisitor is not necessary. Many of the teacher's questions should be quite informal as he tries to help individuals and groups with their various assignments. Questions frequently may be addressed to the entire class, of course, but more often they should be addressed to an individual pupil or a small group. As a matter of fact, in the really live class, the pupils will ask most of the questions. Too many questions from the teacher indicate that something is wrong.

A teacher should ask his questions in a pleasant, friendly, easy, conversational manner. If he can maintain an atmosphere of easy informality without sacrificing decorum, so much the better. He should always ask his questions in a fashion which indicates that he expects a reasonable answer. If the pupil does not know the answer, or cannot contribute at the moment, there is no point in teasing him about it. Exhortations to think will not bring back a forgotten lesson.

When using questions in a whole-class situation, the teacher usually should first ask the question, wait for the class to think about it, and then ask someone for an answer. In this way everyone has a chance to consider the question before anyone tries to answer it. There is little use in asking thought questions if you don't give the pupils time to think about them.

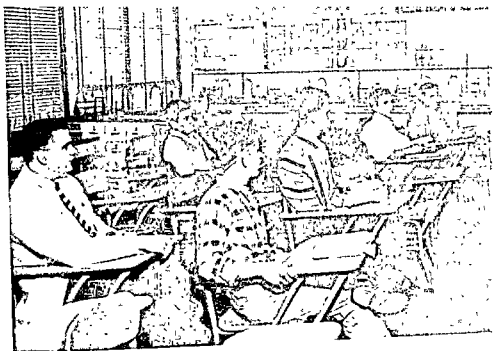
This technique has another merit in its favor. When one asks the question first, no one knows who is going to be asked. This helps to keep the pupils alert. When the teacher calls on a pupil before asking the question, other members of the class may heave a sigh of relief and not bother to listen to the question.

Of course, there are exceptions to the rule. If one plans to call on an inattentive pupil, give his name first so that he will hear the question. Otherwise you may have to repeat it and perhaps create an embarrassing situation. By calling his name first one may get back his attention without creating a discipline situation. Similarly, it is sometimes best to name a slow or shy pupil first so that he will know what is coming and prepare himself.

Another technique which may help keep a class attentive is to refrain from repeating questions. If for some legitimate reason the pupil did not understand or hear, then of course one should repeat the question. However, if he did not hear because of inattention, the teacher should pass on to someone else. This technique also applies to repeating answers. Repeating answers merely wastes time and encourages inattention.

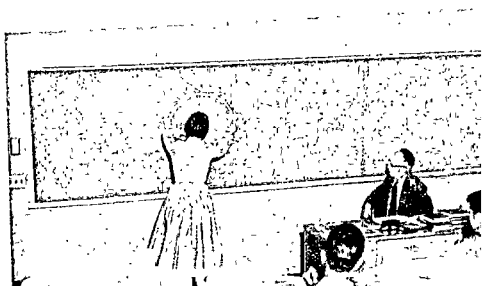
Distributing the questions about the class fairly equally also helps keep the pupils alert. However, one should not resort to any mechanical system for doing this. Youngsters soon catch on to these devices. The old system, for instance, of going around the class in alphabetical order, row by row, is sure death to pupil attention.

The best way to direct pupil attention to one's questions is

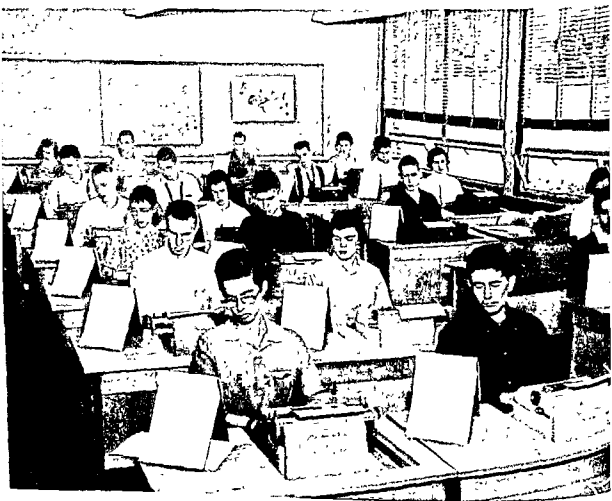


Lectures and teacher talks have a place in the modern secondary school. This teacher is explaining a compass to an aeronautics class.

Demonstrations help to make ideas clear. This pupil is demonstrating a geometric principle.



To learn well such skills as typewriting, one needs to practice. Realistic practice under some pressure should help these pupils improve their typing.



to ask really interesting, thought-provoking questions. Leading questions, questions which give away answers, one-word-answer questions, and the like have the seeds of boredom in them. They should be avoided like poison, for they have killed many a potentially good class.

Handling pupil answers

In order to create a permissive atmosphere, i.e., an atmosphere of friendly cooperation, in which the pupils feel free to do their best, even if their best is none too good, the teacher should accept every sincere response appreciatively. Immature thinking and lack of knowledge are not serious faults. If pupils were mature, we would not need schools. The fault is not to try. Pupils should be allowed to make mistakes without fear of recrimination, but they should not be encouraged to do careless work. When a pupil does not answer to the best of his ability, the teacher can follow up with other questions which will shake him out of his complacency. Usually he will get the point.

In like manner, teachers should insist that the pupils make themselves understood. An answer that is not clear is not a good answer. If the pupil fails to make a point the teacher can ask him to elaborate. Each answer should be a complete thought unit—although not necessarily a sentence. If the teacher throws the incomplete thoughts back at the pupils, the latter will probably soon learn to answer more clearly.

Although one should listen to all sincere answers, only the good ones should be approved. When his answer is not satisfactory, the pupil should be told why it is incorrect and how he might improve it. Any portion of an answer that is correct should be recognized, of course, but any part of an answer which is incorrect should be criticized. The teacher can do this by pointing out the error himself, or by throwing the question open for discussion by the other pupils.

If the question is answered well, the teacher should express approval. This does not mean that he should be effusive about it. For some questions a friendly "That's right" is quite enough. Other questions, designed to bring out major points, need to be given more emphasis. This can be done by using such questions as a basis for further discussion.

Occasionally, a question brings forth no response other than blank stares from the entire class. In such a case the chances are that the teacher has skipped some steps. Often he can get the desired response by breaking the question down into component parts or by backtracking a bit and asking questions which will lead up to the original question.

What are the faults of the questioning techniques in teachers you have observed? How can you avoid these faults?

Prepare a list of principles to observe in questioning. Check yourself by these principles in a classroom situation. How well do you do?

Handling pupil questions

Pupil questions should be encouraged. If the pupils leave your class with inquiring minds, you will have accomplished much. But how does one encourage pupil questions? By welcoming them. If one encourages a free, permissive atmosphere in which youngsters know that they will be respected, one can expect pupil questions to increase. Certainly they will if the material studied is interesting and important to them. If the teacher will only ask himself what the youngsters may want to know before he plans the lesson, he can increase the chances of his material's being interesting and important.

Not all pupil questions are as important as others. Some questions are so important that if the class is interested it would be wise to depart from the agenda and consider the question in detail, even if it is not exactly pertinent. Others will be of little importance and can be answered very briefly. Some questions are so trivial that they should be disregarded. If sincere, they should be answered, although briefly. The teacher should explain that class time is scarce, that class goals are important, and that there is little time for the trivial. Sometimes the questions may be "smart alecky." Questions of this sort are best turned back on the questioner. If a teacher finds that many trivial or "smart" questions are turning up in his class, he had better check to see if this may be due to his teaching, his material, or both.

At times it is best to turn a question over to some other member of the class or to the class as a whole for discussion. In fact, there seems to be no reason why pupils should not ask each other questions directly as long as they are pertinent to the discussion and asked courteously.

Occasionally, the teacher will be asked questions he cannot an-

swer. In that case he should promptly admit his inability. Perhaps another member of the class does know. If not, the teacher can either find out himself or ask someone to find out for him. If the latter choice is made, the teacher should look up the answer too. Thus he can check to be sure that the pupil reports back correctly.

THE PROJECT

A definition

A project is a natural, lifelike learning activity involving the investigation and solving of problems. Ideally it should consist of a task in which the pupil sets out to attain some definite goal of real value to him. As originally visualized, this goal seems to have been something tangible. Although this connotation is no longer essential, projects frequently involve the use and manipulation of physical materials and result in tangible products.

A classic example of such a project may be found in the agriculture projects in which pupils conduct farming enterprises such as raising a calf or a crop. A less ambitious project in an academic class might be making a scrapbook anthology for an English class, or an illustrated history of the life of the honeybee. An unusual group project reported from a Western high school is the building and selling of a house by a group of high-school apprentice pupils.

Selecting the project

Ordinarily, the pupil should plan, execute, and evaluate the entire project himself. Even so, the teacher's role is important. He must help and guide the pupils. One of the more important ways he can guide them is in selecting a suitable project. Sometimes the teacher will find it necessary to provide a list of possible projects from which to choose. Or he might suggest readings in which the pupils might find project ideas. Occasionally, he may be able to stimulate ideas for projects by a discussion of possible projects, or by a teacher talk about what others have done, or by a demonstration of former projects. An interesting device is to have members of previous classes act as consultants and tell the class about some of the projects completed in past years. Sometimes the teacher may need only to approve the plans formed by a pupil.

In any case, the teacher should approve a project before the

pupil attempts it, for selecting projects requires sound judgment. The following criteria may help in selecting useful projects. The first of these is that *the project should consist of real learning activities*. Unless one is careful, projects sometimes may turn out to be mere busywork. Scrapbooks and picture collections quite often fall into this category. An example of a project which was little more than busywork was a notebook for an English class which consisted of biographies of authors, copied from the appendix of the English textbook. Teachers should guard against this danger by continually asking themselves, "What learning will result from this project?"

Not only should the learning be valuable, *it should be pertinent to the course*. Because of their very nature, projects often include materials and activities from other subjects. Consequently, there is a constant danger that the project may get out of the field completely.

Another important criterion in the selection of projects has to do with time. The teacher should consider whether or not the *learning to be gained from a project is worth the time spent on it*. Not only must the amount of time be considered, but one must also decide whether the learning might be gained more economically in another way.

Other criteria which the teacher and pupil should consider include *the availability and cost of materials and equipment necessary*.

Conducting the project

Once the project has been selected and approved, the pupil is ready to proceed with it. As in any other activity, the teacher will find it necessary to help and guide the pupil as the latter attempts to carry out his plans. However, the pupil can carry a great deal of responsibility for executing them. He is also in a particularly good position to evaluate his own progress and its results. Consequently, the teacher should allow the pupil to accept a good share of this responsibility. Although the teacher should always stand ready to help, he should be careful not to be too solicitous and thus stifle the initiative and ingenuity of the pupil.

An example of a good project

An example of a project is one which took place in a science class. In this class the pupils were attempting to study the stars, although they had no telescope. One day, during a laboratory session,

a pupil asked if it might be possible to make a telescope. The teacher answered that it should not be too difficult to do. A conference followed and the pupil, with some friends, decided to attempt to build a telescope as a project. The first thing that they had to do was to find out how to construct a telescope, i.e., they had to find out how a telescope works, what materials are necessary in making one, and how these materials can be put together. Once they had acquired this information, the boys decided the kind of telescope they wished to build and gathered the necessary materials. Then they put it together. Hours of work and seemingly insoluble problems were part of this project, but finally the boys had assembled a usable telescope. In fact, after they got through using it, they presented the telescope to the school for use in astronomy classes. The telescope is still being used by the pupils of that high school.

This project has all the essentials of a good project. The result was well worth the effort; it was realistic and lifelike; it consisted of problem-solving situations; and it was conceived, planned, and executed by the pupils under the guidance of the teacher.

How might you use individual projects in your class? Group projects? Why is it sometimes said that directions for pupils may be too explicit?

SUMMARY

The skillful teacher has many techniques and methods at his command. Among the most important are the lecture, drill, questioning, and the project. Although the use of lectures, drills, and questions has been severely criticized, each of them has a place in today's schools. However, there has been considerable change in the way they are used. Lectures, rather than being the heart of teaching, are now often used to supplement other techniques. Like any other speech, lectures are most successful when they are short and lively. At the present time, drill is often called practice and emphasizes well-motivated, purposeful, varied repetition. Similarly, rather than being used as a method of checking whether pupils have learned their lessons, questions are now used as a means of stimulating learning through thought and problem solving. Projects also emphasize problem solving. In fact, problem solving is the heart of any good project. Pupils can do much of this themselves. Still, most of them will need considerable help in selecting, planning, and carrying out their

projects. Pupils who need remedial work require even more help. Actually, remedial teaching differs little from ordinary teaching except that it is more carefully aimed to meet the needs of individual pupils. *To be successful, it requires careful, painstaking work.* But then, to a lesser degree, this is true of all teaching.

FOR FURTHER READING

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CHAPTER 7

Group teaching techniques

In the parlance of teachers a group is a number of people working together toward the same goal. A group may consist of an entire class or a small part of a class. Its size does not matter particularly as long as the members work together. In this chapter we shall attempt to discuss some activities whose success depends largely on cooperative group action.

TEACHING THROUGH COMMITTEES

The value of committees

Quite often teachers divide classes into small groups. We have investigated the use of ability groups in another chapter. Another type of small group is the working committee, which has a specific task to perform. Committees of this sort can help provide for individual differences in ability and interest. For example, let us suppose a class is studying the family. One might form one committee to investigate the family life of animals, another to survey adolescent-parent relationships, still another to investigate family life in a polygamous society. A pupil could choose to work in one or another of these committees on the basis of his interests. Within the committee, pupils will be allocated different tasks depending upon the committee's needs and the pupils' interests and abilities. Thus, by using committees it may be possible for pupils to assume various

degrees of responsibility and to tackle tasks of varying difficulty, as well as to study things interesting to them.

Choosing committee members

In every class, pupils tend to form natural groups and follow natural leaders. By observing the class and by using devices such as those described in Chapter 1, the alert teacher can find out who the natural leaders and group members are. He should do so because, as a rule, it is advantageous to make use of these natural groups and natural leaders when forming committees.

A device particularly useful for this purpose is the sociogram. This is nothing more than a diagrammatic representation of what seems to be the structure of the group in a class. Any teacher can make a sociogram easily by using the following procedure:

1. Ask the pupils to answer in secret such questions as: Which two pupils would you like to work with on a topic for an oral report? If we should change the seating plan, whom would you like to sit beside? Or, with whom would you most like to work on a class committee in planning? Sometimes one might also ask questions such as: With whom would you rather not work?

2. Tabulate the choices of each pupil. Keep the boys and girls in separate columns.

3. Construct the sociogram.

- a. Select a symbol for boy and another for girl.

- b. Place the symbols representing the most popular pupils near the center of the page, those of the less popular farther out, and those of the least popular on the fringes. It may be helpful to place the boys on one side of the page and the girls on the other.

- c. Draw lines to represent the choices. Show the direction of the choice by an arrow. Show mutual choices by a double arrow. Dislike may be shown by using dotted or colored lines.

An example of a sociogram depicting the composition of an eighth-grade mathematics class is shown on page 125.

In the sample sociogram what natural groups do you find? Do you see any indications of group leaders? If you were to form four committees, would this particular sociogram be of any help?

What other information might a sociogram give? What evidence does

3. I don't mind working with him, but I don't want him for a friend _____
4. I don't like him much. Prefer not to work with him, if possible _____
5. I don't want anything to do with him _____

An excellent example of a social-distance scale can be found in Cunningham's *Understanding Group Behavior of Boys and Girls*.¹ The above sample is an adaptation of that scale. As one can see, the social-distance scale can give the teacher valuable information concerning the natural grouping of the pupils in his class. It can point out fairly clearly which pupils are likely to work together congenially.

While forming committees according to natural group lines may be advantageous, several other requirements must also be considered. Among these are the nature of the committee's task and interests of the pupils. One reason for having pupil committees is to allow pupils to work at tasks which seem important to them. One should see to it, in so far as possible, that each pupil works on the committee he is most interested in. Furthermore, each committee calls for members with different abilities. In choosing committee members, provision should be made for these various abilities.

Whenever possible, committees should be made up of volunteers. This is not always feasible, of course, but one may be able to approach this ideal more closely if all the pupils make two or three choices in writing rather than volunteering orally. Making choices in writing allows the more timid to volunteer without embarrassment. Even so, some assignments to committees will have to be made by the teacher or by a pupil steering committee under the teacher's guidance. In either case the teacher should take care to see that the membership of each committee meets the criteria noted above.

¹ Ruth Cunningham and Associates, *Understanding Group Behavior of Boys and Girls*. Teachers College Bureau of Publications, Columbia University, New York, 1951, p. 416.

Determining the committee's procedure

Every committee should have a specific mission to perform, and the committee members should have a clear understanding of what this mission is before they start to work. This task may be assigned to the committee by a teacher or be the result of group planning. In any case, the work of each committee should further the plan worked out for the entire class.

Once the committee has its mission, it must establish its mode of procedure. One of the first things which must be done is to appoint or elect a chairman to lead the committee and a recorder to keep a record of what is done. After these persons are selected, the group should decide on what it is going to do. This means that it must set itself definite objectives in light of its mission. This can be done in committee discussion. Further discussion can develop the methods by which the committee proposes to reach its objectives. At this time specific assignments are given to the various committee members. For instance, the committee may ask one pupil to be responsible for securing certain material, and another responsible for looking up a specific item of information. As soon as this planning is completed, the pupils work together to complete their task.

After the committee has accomplished its work, it should report back to the class in one way or another. An oral report to the class is a common practice. Unfortunately, oral reports can become deadly, particularly if the class must listen to several of them, one following the other. The teacher who wishes to relieve the class from boredom should prevent an unending series of oral reports. Talks by skilled lecturers are difficult enough for teen-agers to sit through; talks by unskilled pupils can become unbearable. Therefore the teacher should attempt to space the reports between other activities and to see to it that committees report in other different ways.

In what ways might a committee report to the class (other than by oral report)? You should be able to suggest at least twenty different procedures.

Helping pupil committees

Committees usually require a great deal of teacher guidance. Inexperienced boys and girls will need help in determining how

they should go about completing their work. They will need help in determining their goals, the procedures for fulfilling those goals, and ways of reporting the fruit of their labor to the total group. In advising them, the teacher should retain his role as a consultant, not as a dictator. He should point out alternatives open to the pupils and the dangers inherent in some lines of approach to the problem. Since boys and girls, like adults, are likely to take the line of least resistance and stick to the tried and true, the teacher should take special care to make pupils aware of different approaches to committee work.

DRAMAS AND SOCIODRAMAS

The purpose of the sociodrama

The sociodrama is an unrehearsed dramatization in which the players attempt to make a situation clear to themselves and to the audience by playing the roles of the participants in the situation. For this reason it is sometimes called role playing. Its purpose is to help people see a situation through other people's eyes. Because of the power of drama, it is particularly useful in making clear to pupils the motivation and feelings of others.

For instance, in order to teach how prejudice affects both the prejudiced and the prejudiced against, a group in a social studies class attempted to portray the feelings of a pair of boys who were rejected from a fraternity because of their religious beliefs. The players presented two scenes: the first, the discussion of the candidates at the fraternity just prior to the voting; the second, the scene in which the boys were notified of their rejection. In each of these scenes the players attempted to show the emotions of the characters they portrayed. They particularly emphasized how the boys felt after the rejection. Three different casts portrayed these scenes. After the presentations the entire class discussed the justice of the decision and the probable effect of the incident on the persons concerned.

Another example of a sociodrama is an attempt to make the feelings of the American colonists more real to the pupils. In this sociodrama the players represented a group of colonists discussing the news of the "stamp tax." In the cast was a "calm loyalist" and a group of "hotheads." The loyalist tried to show the reason for the tax, but the others shouted him down. From a sociodrama of this

sort it is hoped that the pupils will come to understand the tenor of the times being studied.

Preparing for the sociodrama

Although sociodramas are presented without script or rehearsal, they do require some preparation. In the first place, the pupils must understand the situation being presented. This necessitates selecting a situation that the pupils can readily comprehend, and carefully briefing both the players and the rest of the class so that they do understand it. The teacher should see to it that each player not only understands the situation but also realizes the purpose of the sociodrama and his part in it. For this reason the players should spend some time discussing their roles with the teacher before the presentation. The teacher must also see to it that the rest of the class understands the purpose of the sociodrama and what they should look for as the drama is presented. Although a sociodrama may be enjoyable, it is not entertainment. The teacher should make every effort to be sure that all the pupils realize this and treat the sociodrama as a serious attempt to clarify a difficult social situation.

Selecting the cast

As one can readily see, a sociodrama requires serious effort on the part of the role player. His job is to attempt to get under the skin of another person and, as far as he possibly can, represent that person's actions and emotions. This is no small task. For this reason one should select the role players carefully—if possible, from volunteers. The selection is complicated by the fact that sometimes the most eager volunteers seem quite incapable of carrying out the roles. At times the teacher will have to find understudies for the cast. A helpful procedure is to select several casts and have several presentations. This practice may offset poor presentations and give depth to the understanding of the class as a result of the difference in presentation and interpretation of the roles.

Presenting the sociodrama

Participating in a sociodrama is rather taxing for some pupils, and quite often the players are extremely nervous. They may need help and encouragement. Rehearsing the first few lines and preparing a general plan for the development of the dramatization may

help the participants to play their parts more confidently. However, too much planning may stifle the sociodrama's spontaneity and strait-jacket the role player's interpretation. The purpose of a sociodrama is for the role player to place himself in his role and then, as naturally as possible, to enact the role he is portraying. Ordinarily, the teacher's part in the planning should be limited to giving the pupils the necessary background and enough planning and direction to get started with confidence.

Since the pattern of a sociodrama is quite loose, there is always a danger that inexperienced role players may lose sight of their roles. The teacher can guard against this eventuality by carefully selecting the role players and thoroughly explaining their roles to them. However, if in spite of precautions a player does get badly out of character, the teacher may have to stop the production and reorient the players. It is better to interrupt the production than to present false information to the class.

As with any other activity, the pupils in the audience should be well prepared for observing the sociodrama. They should understand what is going on and what to look for, or the presentation will be for naught. Similarly, if the pupils are to benefit from the acting, the dramatization must be followed up. A discussion period is excellent as a follow-up after the sociodrama. In fact, it can be the most worthwhile part of the entire presentation.

What should the teacher do if a pupil seems to be badly misinterpreting his role?

What purposes may a sociodrama serve?

What sort of material is best suited to a sociodrama?

Other types of dramatizations

Sociodrama is not the only form of dramatization used in teaching. Pupils can bring dramatics to school in all its forms from full-fledged grand opera in the music department to charades in the English classroom. Among classroom dramatic activities one may find such divergent art forms as the ballet, pantomime, pageant, choral readings, cinema, puppetry, shadow plays, and mock radio and television performances.

Such dramatizations have many uses: illustration of an historical scene, portrayal of a literary character, the vitalization of a play, or

the representation of a fact or an abstract idea. The impact of a well-done dramatization can drive home concepts and attitudes to both spectators and participants. Especially worth considering are the student-created dramatizations. In addition to the benefit derived from creating the piece, the pupil may learn many facts and figures about the topic to be dramatized as he gathers material for his presentation.

Unlike the sociodrama, dramatizations need to be rehearsed. Before attempting to present a work of art, the players should know pretty well what to say, how to say it, and how to portray their roles. Even if one is merely to read a play, the pupils should first read through the parts they are to portray and become familiar with the vocabulary. Impromptu classroom readings of great plays seldom lead to appreciation of the drama. A quick rehearsal in the corridor or in a corner of the classroom will usually increase the effectiveness many per cent. A more thorough preparation may be even more beneficial.

Only on rare occasions, however, is it worthwhile to spend long periods of time in rehearsal and line learning. For this reason the use of pantomime, pageants, and other activities in which the pupils have few speaking parts may be advantageous. Otherwise classroom dramatization probably should depend upon the reading of lines. This should not preclude the use of such projects, for instance, as preparing and filming a movie script. It does mean that one should carefully consider the relative values to be derived from the sort of activities which require long periods of rehearsal and memorization.

Criticize the following practice: (Note that "criticize" and "find fault" are not synonymous.) In a junior-high-school the pupils had been reading plays for outside reading. As a culminating activity the student teacher asked each person to dramatize a scene from his play using his colleagues as actors. Before the presentation the actors consulted with one another for about five minutes and then read their lines all from the same book.

What purposes may dramatizations serve? What sort of material is best dramatized? What types of dramatization are possible? What are the merits of each?

When are dramatizations best used in the teaching-learning cycle?

DISCUSSION TECHNIQUES

Characteristics of a good discussion

A discussion is more than a "bull session" or argument; it is purposeful; it proceeds toward some goal with a minimum of rambling and bickering. Unlike the "bull session," the discussion is not a pooling of ignorance or unsubstantiated opinion. For a discussion to be successful, the participants need sufficient background to know what they are talking about and to base their arguments on fact. Moreover, the topic must be discussable. $a^2 + b^2 = c^2$ is a fact. It is difficult for the writer to see how this fact could be the basis for a class discussion—although perhaps one might discuss its implications.

Furthermore, a discussion is a conversation, not a monologue nor a series of questions. In a really effective discussion, all should participate, although it is not always necessary that all people talk. Sometimes he who only sits and listens participates. In general, however, one can assume that in a discussion the more people who actively participate the better. A discussion is not a place for one person to treat his ego by dominating the conversation, nor is it a place for one person to sell his own point of view. Discussion is not another name for lecture or recitation.

A really successful discussion is not only purposeful; it also achieves its purpose. Although it is not always possible, the discussion should come to some sort of conclusion. Certainly, even if no conclusion is reached, one should always have some way of summing up. Sometimes the summary may have to include a minority report.

What is a discussion? How does it differ from a recitation?

What values do discussions have? For what purposes are they best suited? What sorts of things can best be learned through discussion?

What makes a good discussion?

What can be done about discussions which seem to get nowhere?

Leader's role in discussion

If a discussion is to rise above the level of a "bull session," the leader must ordinarily provide active, purposeful leadership. He must get the discussion started and see to it that everyone understands the topic and purpose of the discussion. He must also keep the discussion moving by encouraging all to take part, and by tactfully

bottling up any monologists in the group. He attempts to draw pupils out by skillful questioning. By clearing up errors of fact or judgment and by recalling the group to the problem at hand, he tries to keep the discussion from wandering off into unproductive byways. From time to time he summarizes to be sure that all participants are up to date and helps the group evaluate its progress. Sometimes he may have to suggest next steps. Finally, when all is said and done, he tries to tie together all the ideas, conclusions, and generalizations in the summary.

In spite of his important role, the leader should not dominate the discussion. In the best discussions the leader limits himself to a minor role, for a discussion is an opportunity for participants to share ideas.

Starting the discussion

Like any other activity, a discussion requires prior planning and preparation. Not only must the teacher be well briefed on the topic to be discussed, but he needs a plan for the conducting of the discussion. In the plan, he should include provisions for getting the discussion started and questions for possible use. He should also be prepared with possible conclusions.

Starting a discussion is sometimes something of a strain. It may take a little persuasion or subtlety, or some special introductory activity. Before starting, the teacher should attempt to arrange the group in a homey, informal fashion. As a general rule, the more pleasant the atmosphere the better chance the discussion has of being successful. If possible, the pupils should be seated so that they can see each other. In actual practice a circle seems to be the best seating arrangement for a discussion, although any other arrangement which brings the participants face to face will do.

If the discussion is to be successful, the pupils must understand what it is they are to discuss and the procedure they will use in discussing it. Sometimes the introductory portion of the discussion needs to be devoted to clarifying the issues. Presenting the topic to be discussed as a problem sometimes makes the clarifying and launching of the discussion easier.

To start a discussion without some activity to develop interest among the participants is quite difficult. People need an opportunity to think and react before they can discuss anything sensibly. Conse-

quently, it is sometimes advantageous to have a discussion develop out of some other activity. "Buzz sessions"—groups of four to six people who discuss the question for four to six minutes—sometimes help to get the discussion under way. Another common device is to start the discussion with a short introductory talk, or for someone to throw some challenging questions (prepared in advance) at the group. A test, quiz, or pretest can sometimes be used to stimulate a brisk discussion.

What can the leader do to start a discussion when the group seems reluctant to participate? Can you suggest at least five approaches which may help the discussion get started?

How would you arrange the physical setting to encourage discussion? Suppose you wished to use the board in connection with the discussion. Would that change your decision?

What can you do with pupils who monopolize the discussion?

Guiding the discussion

Once the discussion is started, the leader must keep it moving briskly in the right direction. Skillful questioning and keeping an outline of the most important points on the chalkboard will help maintain the tempo and keep the group to the topic. So will being sure that all the pupils know and accept the problem under discussion. Should a group digress, the leader can redirect them by restating the question, although the group should be allowed to pursue a digression which seems to have promise. Occasionally groups which have become confused and cannot agree can be helped by a minute of silent consideration of the problem.

From time to time, the leader should draw the threads together by summarizing. Such a summary gives one a chance to stop and look at one's progress, to see how the group stands, and perhaps to decide in which direction to proceed. At the end of the discussion a final summary should pull together all the important ideas and conclusions. Quite often it is extremely helpful to note these ideas and conclusions on the chalkboard for all to see and to emphasize their importance.

A good summary is essential for the ending of a discussion, but it should not end the consideration of the topic. A suitable follow-up activity which drives home the importance of the things learned or which leads into the next activity increases the value of the discussion.

Evaluating the discussion

The value of discussion will ordinarily increase as the pupils learn how to carry on discussions and gain experience. Good discussion techniques must be learned and practiced. If we take stock of ourselves and our discussion from time to time, progress in those skills can be expected. An effective way to evaluate one's discussion is to tape-record it in its entirety and play it back to the group. If the group has criteria against which to judge the recording, this experience can be very illuminating. Frequently self-evaluations will help to improve discussion skills. Having the group members check a form as simple as the following can be of considerable value:

1. Did the group discussion do what it set out to do?
2. In what way did we fall short?
3. Did we get off the topic?
4. Did everyone participate?
5. Did anyone monopolize the conversation?

Sometimes, in order to evaluate the group's discussion, one of the members is asked to act as an observer. The observer's job is to watch the group as the discussion progresses and to report his evaluation to the group. In his evaluation he may use as a guide such criteria as those mentioned above. Another device which helps in evaluating a discussion is the flow chart. An example of one is set forth on page 136. In this flow chart an arrow pointing from a person to another shows that the participant had addressed his remark to another person. Double-headed arrows indicate an exchange between two people, and arrows pointing into the circle indicate a remark addressed to the group as a whole. By observing the chart, it should be possible to tell who in the group was participating and whether the group was participating as a group or as a bunch of individuals.

Make a simple rating scale by which one can evaluate a group discussion.

What does the flow chart on page 136 tell you about the participating group?

Would flow charts be helpful in high-school classes? How would you use them?

A recorder is especially helpful in many group discussions. He keeps a record of the important decisions and the trend of the dis-

cussion. From time to time, he sums up the status of the discussion upon the request of the leader or upon his own initiative. He also calls the group to task when it wanders too far afield and sees to it that they tend to the problem at hand. A good recorder can be a tremendous help to any discussion leader or any discussion group.

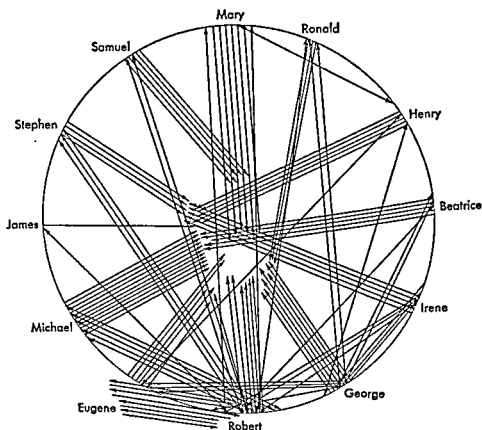


Figure 5. A Flow Chart.

The following list^a is useful for outlining the tasks of the group participants and evaluating their success.

Each Group Member and the Discussion Leader in Particular

- Helps decide on specific problems and ways of working as a group
- Contributes ideas and suggestions related to the problem

^a Association for Supervision and Curriculum Development, *1954 Convention Program*, Washington, D. C.: the Association, a department of the National Education Association, 1951, pp. 54-55. Adapted by the 1954 Committee on Conference Orientation and Evaluation from material prepared for the 1950 Convention Program by J. Cecil Parker, University of California, Berkeley.

- _____ Listens to what other members say and seeks helpful ideas and insights
- _____ Requests clarification when needed
- _____ Observes the group process and makes suggestions
- _____ Assumes various roles as needed
- _____ Helps group get acquainted
- _____ Helps group establish ground rules
- _____ Reports results of preconference planning for work of group
- _____ Helps group proceed with planning and deciding
- _____ Calls on group to clarify, analyze, and summarize problems and suggested solutions
- _____ Draws out the "timid soul" and keeps the dominant person from monopolizing
- _____ Knows particular contributions which different persons can make
- _____ Assists the recorder
- _____ Summarizes the thinking of the group as needed.

The Recorder

- _____ Consults with the group concerning the kind of record that is developing as the discussion moves forward
- _____ Keeps a record of the main problems, issues, ideas, facts, and decisions as they appear in discussion
- _____ Summarizes the group discussion upon request
- _____ Requests clarification when his notes are unclear
- _____ Prepares resolutions and other final reports with other designated members of the group
- _____ Attends any scheduled clearinghouse or intergroup sharing committee sessions
- _____ Prepares final group report and is responsible for getting it to proper clearinghouse.

Each Group Member

Pays attention to the way the group:

- _____ States its goals clearly
- _____ Permits participation to be easily and widely spread
- _____ Keeps its discussion clear
- _____ Assumes leadership responsibility
- _____ Uses its resources
- _____ Progresses toward its goals
- _____ Revises its goals as necessary.

Participates in evaluation of the group process

Reports to the group if asked regarding observations on the group process.

Group Members as Resource Persons

Every member of a discussion group is responsible for:

- _____ Supplying information or other material to the group when requested, or when the discussion seems to call for it
- _____ Citing his own experience freely when it is relevant
- _____ Assisting the leader in moving toward the achievement of group goals.

Examine the Association for Supervision and Curriculum Development criteria for discussion groups. How can they be used in a secondary-school class?

How can student leaders, recorders, and resource persons be used in secondary-school classes?

Panels and symposiums

To discuss any matter well in a large class is quite difficult. Usually such discussion boils down to involving only a few persons, with the rest of the class acting as onlookers. Sometimes some of the benefits of the discussion group can be brought to a large class by using a panel, symposium, or round-table discussion. Here selected members of the group can discuss matters in a fashion similar to the free discussion of the small class. In a panel discussion, participation is open to all members of the panel; in a symposium, each participant makes a set speech, which may be followed by discussion. In either case, people from the floor are given a chance to enter the discussion. Although the panels and the symposiums are usually not suitable for small classes, they may be used to launch discussions in small groups. In both large and small classes the panels and symposiums are likely to be more interesting if they involve questions and discussion from the class.

SUMMARY

Some of the most effective teaching is group teaching, i.e., teaching by and through groups and group methods. By using committee work, sociodramas and other dramatizations, and discussion, teachers can quite often increase their teaching efficiency. This type of teaching is frequently effective in changing attitudes, ideals, and appreciations. It is particularly useful in raising learning above the

verbalizing level. Thus group methods often lead to thorough permanent learning. Teaching by group methods takes considerable time and effort, but the results are usually worth it.

FOR FURTHER READING

- Alexander, William M., and Paul M. Halverson, *Effective Teaching in Secondary Schools*, Rinehart and Company, Inc., New York, 1956, Chs. 4, 5, 9.
- Grambs, Jean D., William J. Iverson, and Franklin K. Patterson, *Modern Methods in Secondary Education*, Revised Edition, The Dryden Press, New York, 1958, Chs. 9-10.
- Klausmeier, Herbert J., *Teaching in the Secondary School*, Harper and Brothers, New York, 1958, Ch. 10.
- Wiles, Kimball, *Teaching for Better Schools*, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1952, Chs. 5-8.

CHAPTER 8

Reading, studying, and problem solving

Reading, studying, and the solving of problems make up a great share of the pupils' work in any secondary school. Since these activities are so important in the school, the teacher must see to it that pupils know how to profit from them, for each is a difficult and complex operation. It is the purpose of this chapter to point out ways toward efficient use of these all-important activities.

READING ACTIVITIES

Books have two major functions in the school, as they have in life itself. They provide a source of information and ideas; equally important, they are a source of enjoyment. The teacher should seek to emphasize both of these aspects in his teaching, for, in spite of moving pictures, radio, and television, books remain a great treasury of learning and a great source of pleasure.

Selecting a textbook

Textbooks have always had an important place in the classroom. Since this is the case, selection of good textbooks is essential. In some schools the teachers choose the texts for their own classes. In other schools, committees of teachers select the texts. Only rarely do superintendents or principals select the textbooks. Even when texts are selected by state or city authorities, the teacher may often have a

choice among various possibilities. Consequently, he should be aware of what makes a good textbook. The following criteria, selected by the American Textbook Publishers Institute, may serve as a guide for evaluating textbooks.¹

1. What is the date of the copyright? Books reflect the climate of opinion at the time they were written, and opinions may have changed since then.

2. Is the material being evaluated in the light of the author's intent and of the subject matter?

3. Has certain subject matter been removed from its context or are entire units included?

4. What effect will the material probably have on the pupils who read it?

5. How is the material intended to be used in the classroom and in the school?

6. Does the book as a whole represent a fair and unbiased view? Do the criticized portions of the book represent the spirit of the entire book or parts only?

Do you agree with the list? What would you add, delete, or change? Rate a textbook in your teaching field by these criteria.

One text or many readings?

In many schools the place of the textbook presents a problem for the teacher. Should he have one basic textbook, or should he have several readings?

In general, the weight of the argument seems to favor the use of several readings. A single text can lend organization and order to a course. Frequently it is the sole source for a course plan readily available to the new teacher. On the other hand, the teacher should know his own class better than any authority writing in the ivy-clad walls of a university. Therefore the teacher should be better able to select and organize the material for a particular group of pupils in a particular school. When one adopts a single text the class is limited to a single point of view, a single reading level, a single style.

The use of several readings has the advantage of making it possible for pupils to read material suited to their abilities and needs. If a youngster is attempting to learn the contribution of Samuel

¹"Six Tests of Textbooks," *American School Board Journal*, 122 (copyright June, 1951), p. 25. Used by permission of American Textbook Publishers Institute.

Gompers to the labor movement, it matters little whether he searches for his information in the *Encyclopedia Britannica*, a biography of Gompers, or a history of the labor movement, as long as he learns it as efficiently and effectively as he can. Since this is true, the teacher can help boys and girls pick books to study which are most suitable for their abilities and which may appeal to their interests. It is very difficult to provide adequately for individual differences if one limits the readings to one text only.

Another important possibility which presents itself when one uses many readings is the opportunity to read the original. Text-books often tell about things. In many instances this is justified because of limitation of time and space, but certainly the pupil should be allowed to meet some of the originals face to face. The use of many readings makes this more easily possible.

Some teachers find it difficult to organize courses when many readings are used. If one uses unit techniques and follows the procedures outlined in Chapters 3 and 4, this difficulty should be reduced. Another solution to this problem is to adopt one textbook as a basic reader and to supplement it with many other readings. In any case, the key to the technique, when one uses many texts or readings, is to be sure that each youngster knows what he is seeking in his reading. For instance, in the example above, if the youngster does not know what he wants to find out about Gompers, his search in any book is likely to be fruitless. When many readings are used, the use of study guides usually helps give the pupils direction.

How can one determine the suitability of a book's reading level for a particular pupil?

Why do authorities often condemn the use of only one text in the classroom? What is your position on this question?

If the pupils in your class do not all read the same readings, how can you ensure that they all have an opportunity to acquire the important learnings?

Using library materials

In order to teach in the way we think one ought to teach, one must have plenty of material to read. To make this supply of reading material readily available, each classroom should contain a library. In this classroom library, all sorts of reading matter should be readily accessible to the pupil—periodicals, pamphlets, brochures, and the

like, as well as books. For record-keeping a self-charging system with pupils acting as librarians from time to time may suffice. Usually one needs worry little about loss of material if such a system is used.

In addition to the classroom library one should make good use of the town and school libraries. While it is true that in some communities these libraries are rather scantily supplied, the librarians are almost invariably eager to cooperate with teachers. Teachers should make the most of this opportunity.

Few boys and girls, or men and women for that matter, use libraries well. Although instruction in the use of the library may ordinarily be the English department's responsibility, the teacher whose pupils use the library is also responsible to see that they use the library facilities efficiently. Librarians usually welcome the opportunity to explain library techniques either in the classroom or in the library. A visit to the library early in the year might well increase the efficient use of its facilities by the pupils.

Teaching the use of books

The effective use of books is not a skill which comes naturally. Students often seem to think that books are merely to be read. That is not the case. As Bacon says, "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested."

Pupils need to learn how to determine which books to taste and which to chew, and how to perform each of these operations well. The criteria suggested in an earlier section should be helpful in choosing one's reading material. Boys and girls can learn how to use such criteria by class discussion and by application of the criteria to various books. They may even develop their own criteria as a group project.

In the following paragraphs we shall try to show how boys and girls can be taught to use effectively the books they have selected.

The parts of the book

Authors and publishers of textbooks go to considerable effort to provide the reader with help in using the text. You might check through this text to see what aids to learning have been included. Among them you will find a table of contents, a preface, chapter summaries, chapter introductions, chapter headings and subheadings, problems to be solved, charts, graphs, illustrations, sign-post

sentences, indexes, glossaries, and footnotes. Properly used, these devices can make textbook study more efficient. Every pupil should know how to use them and use them well.

Teaching the parts of the book

One of the best ways to teach pupils to use the parts of a book is actually to practice using them in class when the class starts a new book. The teacher might develop the lesson with questions and exercises such as the following:

"Where does one find what the book contains?"

"Examine the table of contents and see what the book is about."

"Now that we know what the book contains, what was the author's purpose in writing it? Where can we find out?"

"What else can one find out in a preface? Let us read it and see. Does this book seem good for our purposes?"

"How can the information we learned in the table of contents or the preface help us in the study of this text?"

"Does it seem that this book is better for our purposes than other texts available? How can you tell without reading the book?"

"Let us compare this book with some others we might use."

Similar exercises may be used to introduce the index and the glossary, until we are sure that the pupils not only know how to use them but have acquired the habit. This, of course, means recurrent practice sessions. In each unit the pupils should have plenty of opportunities to look up things in the index. More than occasionally the teacher will find that the pupils have difficulty in using the index because they do not know the alphabet. For these pupils, special instruction and practice are necessary.

A good type of practice for pupils having trouble with alphabetizing consists of scrambling the words from a page in the dictionary and asking the pupils to put them in correct order. If the words are on cards it makes it much easier and saves time while being fully as effective. Pupils also can make their own lists and test other pupils. In such cases the pupil should first demonstrate his own ability to arrange his list properly before testing his peers. The teacher may have to teach directly how to find such things as "questioning, techniques of" and items which do not appear under the expected category but are listed in another.

The parts of the chapter can be taught in a similar fashion. The

teacher can ask the pupils to find out what the chapter is about. This they can do by checking the subheads, and by reading the introductory section or paragraph, the summary, and the *marginal notes*. On the basis of this information the pupils can be expected to formulate questions of their own concerning what they might learn from the chapter and similarly from the sections. Continued practice with this sort of activity should help create a *habit of reading* with an inquisitive open mind.

What skills and information does a pupil need in order to learn effectively the use of the library?

If your school provided no classroom library, what would you do to provide *suitable reading materials*?

How much time should a biology teacher take to teach pupils how to use the parts of the biology textbook?

Reading for information

An open, inquisitive mind is essential in reading for information. In order to encourage this frame of mind, the following procedure is recommended for studying a chapter or similar reading:

1. Survey the chapter.
2. Determine what one can expect to learn in the chapter. State as questions or a question outline.
3. Read the chapter to find the answers to the questions.
4. Evaluate what has been read.
5. Apply the information to specific situations or problems.
6. Review by asking oneself the original questions.
7. Reread quickly (skim).

Some pupils do not glean much information from any of their reading and must be taught how. The regular textbook can often be used for this purpose. The teacher should ask the pupil to read a paragraph and then tell what it means. The meaning of key words and key sentences, paragraph leads and topic sentences, should be explained to him and he should practice finding them. As soon as he has learned to get the meaning out of paragraphs, the same procedure should be repeated with sections and later with chapters. Exercises of this sort can be made more interesting by using, among other things, games in which one attempts to reproduce the author's outline, by dramatizing the main ideas of a selection, by turning a book into a TV drama, and by boiling down a paragraph or

section into a telegram with, of course, a penalty for any word over the limit. Sometimes these activities should be made to include the entire class. However, boys and girls who have mastered these skills and use them well should not be required to keep on with the exercises. The teacher can expect to find both good pupils and poor ones among those who need help in these skills.

Taking notes on reading

Many people recommend that pupils take notes on their reading. Nevertheless, there seems to be considerable difference of opinion about the value of note-taking. Certainly the mechanical reproduction of the author's outline cannot be of much value. Neither does there seem to be any particular advantage to outlining a textbook one has in his possession. On the other hand, to outline an "outside reading" preserves the information so that one can study it later. Outlines consisting of questions with their answers have the additional advantage of pointing up the salient points. In any case, if one does take notes, he should write them neatly, preferably in outline form. Disorderly notes are liable to confuse the pupil rather than aid him.

Learning to skim

Some books should be chewed and digested; others should be merely tasted. The previous section attempts to explain how to chew, and hints at how to digest a book. The pupil should also learn how to taste, i.e., skim, for skimming allows one to sample, to skip the old and become familiar with the new, to concentrate on the pertinent and brush over the irrelevant.

How does one learn to skim? In the first place, one needs to have a good background in the subject in order to recognize the pertinent and the novel. Having such a background, the pupil can glance through the preface and table of contents to see what the book is about. Perhaps he need go no further. Such a quick perusal may tell him that this book is not what he wanted. If the book seems pertinent to his problem, he may scan the book, reading the headings, introductory paragraphs, chapter summaries, and sample the opening, middle, and final paragraphs. When he finds a topic which seems provocative, the pupil should read it carefully. Sometimes he will find that he must go back to read a previous section, but no harm is

done because he is still reading only what is most essential or interesting.

Teachers can teach boys and girls to skim books effectively. To do so they should first teach the techniques involved directly, and then follow up this teaching with practice. An example of the type of practice useful for this purpose is: First, in a class discussion decide what the class would like to learn from the chapter. Second, let each pupil skim the chapter to see what it has to say on these points. Third, discuss what the class had found in the chapter.

How does one determine when to skim and when to read carefully?

Can you think of any exercise games that one might use to teach skimming?

Of what importance is the ability to skim in mathematics, in social studies, in science?

Build some exercise games you might use to help pupils better to understand a text in your field.

Charts, graphs, illustrations

When reading a book, pupils frequently skip charts, graphs, and illustrations. This is unfortunate because the author includes these aids for a purpose. At times, they contain the meat of what the author is trying to say. They can clarify complex ideas and obscure points. Consequently, pupils should be taught to use these materials.

Many times the reason the pupils do not use charts, graphs, illustrations and similar materials is that they do not know how. When this is true, the teacher must rectify the situation. Ordinarily he can best teach the use of such materials in the usual units of his courses rather than by introducing a separate unit on this topic. In his regular classwork the teacher can ask questions which require the pupils to refer to graphs, charts, or illustrations. Sometimes the questions can be pupil-made. When a pupil does not know how to use the chart, graph, or other aid, the teacher should show him how. At first much of this instruction should probably be group instruction; later it probably will become individual and remedial.

Evaluating what one reads

All that glitters is not gold, and all that is printed is not true. Unfortunately, many young people seem to have considerably more respect for the written word than is warranted. More than one high-

school pupil bases his faith on the fact that it is "in the book." Often these pupils become sadly confused when they find that what the book says is not necessarily so. Teachers should take it upon themselves to ensure that their pupils learn to evaluate what they read.

How does one teach pupils to evaluate their reading? In the following paragraphs some techniques are suggested. The first of these techniques is to give the pupils plenty of practice. When several readings are part of each pupil's task in the various units, he soon becomes aware of the differences of opinion that exist. So perhaps the first step is to give the pupil different readings about the various topics, to consider carefully the differences of opinion, and to discuss why these differences exist.

Another step in evaluating one's reading is to try to establish the difference between fact and fancy. Early in life pupils should learn that some things are fact and some are fiction. Teachers can teach pupils how to determine the difference between fact and opinion by asking them such questions as: Is that so? How do you know? How can you check? Is this true or does the writer merely think so?

In their attempts to distinguish fact from fancy, pupils also should learn to look for signs of bias in the writer. Assignments asking them to check their reading for such things as sensationalizing, emotionality, easy sweeping statements, disregard for facts, and loaded words will help familiarize the pupils with some of the signs of bias. Another check is to examine the writer's documentation. If the writer refers only to old works or works that are in disrepute, probably he has not documented his work carefully. The writer who argues from anecdotes should also be distrusted. Single, isolated cases introduced into the context with the implication that they are typical are often false documentation.

Arguing from anecdote violates a rule of logic. When teaching pupils to evaluate their reading, teachers should teach them to apply the test of logic to all they read. A technique useful in introducing the application of the rules of logic is to discuss violations of logic in their reading or in television materials. For instance, a television commercial implies that one gasoline is better than another because it is made in a refinery which can make its entire product 100 plus octane gas. Why does this not make good sense?



"The library is the heart of the school." Every pupil should learn to use it effectively.



Teachers should utilize small groups within the class. This committee is working on a project.

Group techniques can be used in the traditional classroom. Here a pupil is leading a group discussion in a social studies class.



Or again, one reads that a certain athlete smokes Bippos. Is this any reason why anyone else should? What does he know about it? Material of this sort can be used to teach the more obvious breaches of logic. As pupils become familiar with these errors, one can apply these tests to magazine articles and other readings.

Exercises of this sort and others that the teacher may devise should help give pupils skills in evaluating. Moreover, they can be expected to encourage a questioning attitude in the pupil. It is hoped that after such teachings he will not swallow things, but will read with an active awareness of the snares of misinformation and poor logic, and also be inclined to test any idea before he gulps it down.

Vocabulary building

Every teacher is responsible for helping each pupil in building his vocabulary. This is true for science and mathematics teachers as well as for teachers of English, for each subject has a special vocabulary which each pupil must master unless he is to be severely handicapped in his studying. In order to ensure that their pupils' vocabularies are adequate, teachers should introduce the study of important key words early in the course and discuss other key words as they appear. The use of vocabulary lists and word games is helpful in building an adequate vocabulary.

A common practice in vocabulary building is for the pupil to keep a notebook in which he compiles a glossary of terms useful in the course. If the teacher uses this technique, he should see to it that the pupils do not merely copy words and definitions in their notebooks. This practice usually amounts to little more than transferring the word from one page to another. What we want to do is to transfer the words into the pupil's mind. Consequently, exercises which force the pupil to use the word in context and to learn its meaning are preferable. Defining a word in one's own words is a difficult feat which sometimes serves these purposes admirably. Similarly, acting out words is sometimes a pleasant way to bring out the meaning. So are games and exercises in which one tries to find the closest synonyms. The best practice of all, however, seems to be actually to use the words frequently in the classroom in their natural context. With strange words one should, of course, check to see that

each pupil knows what the word means. This can be done by asking them to explain the word's meaning. The really important part in any of these exercises is that they consist of meaningful practice.

Set up a list of criteria for use in judging whether or not a reading is trustworthy.

How can one make a vocabulary notebook into a worthwhile learning experience?

GUIDING STUDY

In the past, teachers seemed to take it for granted that pupils just naturally learned to study. Seldom did teachers ever take it upon themselves to teach pupils how. "For tomorrow I want you to study Chapter 14, and you can expect a quiz on it," they would say. But not a word about how one studies, or how one should get ready for the quiz.

More recently, teachers have begun to realize that boys and girls must be taught how to study if they are going to learn how. Left to themselves, few pupils develop good study techniques. If boys and girls enter the secondary grades before they have mastered the basic study techniques, the responsibility for seeing to it that the pupils learn these techniques falls on the secondary-school teacher. No pupil can do justice to the secondary-school program unless he has mastered the art of studying efficiently.

What studying is

Some pupils seem to think that studying is the same as reading. This is not the case. Study includes all those activities which have to do with learning through planned effort. Thus, notetaking at lectures, preparation of papers, library work, reference work, problem solving, intensive reading, and skimming should all be considered study activities. They all are techniques which the pupil needs to learn before he can become an efficient student. The next few pages are devoted to a discussion of how teachers can help pupils master excellent study skills.

Suggestions for study

When teachers first became aroused to the fact that boys and girls needed help in learning how to study, they developed "rules for

study" as guides for the pupils. Among the admonitions often included in such rules are the following:

1. Plan your studying. Make a schedule and stick to it. Have a definite place to work. Make your studying routine and part of your routine.

2. Start off without stalling. Have your material ready before you sit down to work. Be sure you understand the assignment before you begin it.

3. Space your learning. Take two- to three-minute breaks. If possible, take your rests at natural breaks in the material you are studying. Try to master one lesson or selection before moving on to the next.

4. Study actively. Develop an interest in what you are studying. Try to find out something. React to the readings. Ask yourself questions. Recite. Work out examples. Illustrate principles. Apply your learning as soon as possible.

5. Vary your study technique to suit the subject and your purpose. Learn materials in the form you expect to use them.

6. Avoid rote memorization. Memorize those things you need to memorize by the meaningful techniques of logical memory. Avoid mnemonics.

7. Evaluate your own work and study habits. Try to improve faulty habits. Try to increase your vocabulary; look up words you do not know. Make use of the aids provided in your books. Do not skip headings, marginal notes, questions, prefatory remarks, tables of content, charts, and graphs. Use them.

8. Check your work and proofread your papers before passing them in. Take full notes but do not attempt to rewrite the text or copy down each word of the lecturer.²

On the whole, the advice in these suggestions is good. But they do not help one's studying, unless they become a part of one's behavior. How to make them part of the pupils' behavior is a problem that teachers must face.

Pick out several of the rules you consider important and try to devise activities which would make these rules become part of the pupils' behavior.

²The student might be wise to examine the list and apply it to his own practice. While each rule is not necessarily an essential, students might do well to investigate their own study habits if they diverge sharply from these rules.

Teaching how to study

Instruction in how to study must involve considerable practice in the classroom. In some schools a course in how to study is provided. Such courses are helpful, but they do not relieve individual teachers of the responsibility for teaching study skills. Why not? For one thing, different subjects require different study techniques if study is to be effective. Consequently, in each of his courses, every teacher should try to teach study techniques proper to his course to any youngster who has not mastered them. Secondly, learning how to study comes only from practicing good techniques, and where else can the pupil practice but in his ordinary courses? Thus every teacher is responsible for teaching pupils how to study for his course. Among the skills with which the pupils may need help are:

1. How to read for information.
2. How to analyze a problem.
3. How to plan for study.
4. How to review.
5. How to evaluate materials.
6. How to use charts, graphs, and other audio-visual aids.
7. How to take notes.
8. How to concentrate.
9. How to analyze.
10. How to outline.
11. How to use the library.
12. How to build an adequate vocabulary both general and specialized.

The need for diagnosis

As in any other teaching situation, one of the first prerequisites for teaching study skills is good diagnosis. By using the techniques of diagnosis described in Chapter 10, the teacher can determine what the pupil needs help with. Much of teaching pupils how to study must be done on an individual basis. As the teacher watches pupils studying, he can suggest ways and means to expedite the process. Questions like the following are often helpful.

What are you doing?

Why are you doing that?

What are you trying to do?

Will this help you?

Is what you are doing worthwhile?

Why do you think this is going to give the desired result?

What might you better be doing now?

Teaching study skills in the assignment

In spite of their great importance, more than diagnosis and individual help is necessary in the teaching of study skills. The teacher can expect little success in this venture unless he teaches the skills directly. Although often neglected, the assignment offers a golden opportunity for teaching these skills. If the reader will turn back to the assignment discussion in Chapter 3, he will notice that the pupils developed an understanding of what they were trying to do and how they were to go about accomplishing their mission. In similar fashion they might discuss the materials and sources available, the use of the materials, and the relative merits of various study techniques in the performing of this assignment. As one can see, the assignment lends itself to such instruction.

The reverse side of the assignment coin can also be used to teach improved study skills. After an assignment has been completed, the pupils can learn about study skills and their efficiency by discussing the methods different pupils used to study the assignment and the relative success of the various methods.

The pupils' responsibility for learning

Although it is true that an assignment, to be good, must ensure that the pupils know how to attack the work to be done, the teacher must also work to convince the pupils to accept the responsibilities of learning. Every pupil should learn quickly that there is no royal road to learning. Teachers should show the pupils how to attack their assignments, but they should not deprive the pupils of their initiative. The idea is to start them off, to encourage them, and to guide them—not to baby them. Rivlin² suggests that the pupils discuss how they would study the material if there were no teacher, then formulate the attack, and work it out under the teacher's

² Harry N. Rivlin, *Teaching Adolescents in Secondary Schools*, Appleton-Century-Crofts, Inc., New York, 1918, p. 276.

guidance. This method has the advantage of helping the pupils find their way under their own initiative yet with the security of the teacher's presence in case of need.

Using a graded sequence

No matter what methods are used to teach study skills, the material taught should be graded according to complexity and difficulty. Study skills are both difficult and complex. For this reason, they should be taught in sequence; the easier skills should precede the more difficult ones, the simple should precede the complex. The teaching of how to read for information previously cited serves as an excellent example of this point. Here the teacher first teaches the pupil how to extract the meaning from a sentence. This having been mastered, he proceeds to teach how to get the meaning from a paragraph. From there he goes on to getting the meaning from a section, a chapter, and finally the entire book.

Building more complex study skills on simple study skills is a must. To do this successfully requires the cooperative effort of the teachers in the various grade levels, and the teacher's careful diagnosis of each pupil's present level of proficiency.

In what ways could teachers of various grade levels cooperate in the teaching of study skills in your field?

In what ways is the studying of algebra different from studying social studies? From home economics? What skills may be used in studying these courses? Do the necessary skills vary from topic to topic within the fields? How?

The problem of homework

Homework is a problem to all teachers. How much homework should one assign? How much should it count? What does one do to those who neglect it? What kind of homework should one give? The list could go on *ad infinitum*, although these problems tend to become less crucial when one uses unit plans.

How much homework should one assign? The answer to this question depends upon the school and the subject. Quite often the school administration has established some sort of policy concerning homework. If so, the teacher must conform. Should the policy be a poor one, the teacher might work for its improvement, but under no circumstances should he flout it.

When the school has no policy concerning homework, one should probably fall in line with the school tradition, if any. In any case, in schools which have study periods, it is usually good policy to give enough homework to keep the pupils busy at least during the study periods. In this connection, one should coordinate with the other teachers to ensure that pupils are neither overburdened nor underworked. Often a good unit assignment takes care of this problem automatically.

Burton ⁴ indicates that homework seems to make little difference in the school progress of boys and girls. Perhaps more attention to homework assignments would result in more impressive gains. Homework is most suitable for activities designed to reinforce older learning. The learning of new techniques and new materials is usually best suited to class situations in which the teacher can guide the pupil and thus guard him from getting off to a poor start by learning the new techniques incorrectly. Similarly, the homework should be reviewed in class to point out errors, to correct misconceptions, and so on. Although written homework should not carry much weight in one's marking, it should always be checked. If the homework is not self-checking, the teacher must check it himself. Unless this checking occurs, the practice value may be entirely lost. In fact, unchecked written homework may serve only to grind erroneous techniques and incorrect concepts into the pupils' minds.

Utilizing supervised-study periods

A supervised-study period is an opportunity both for the pupil to study under guidance and for the teacher to supervise and guide study. This can best be done in the regular class. To a lesser extent it can also be done in study halls. Unfortunately, in some schools study halls are looked upon as merely a means for storing students who have no class at the time. This is hardly efficient. Supervised-study periods need real supervision. Merely to sit and watch the pupils is not the function of the teacher in a supervised-study period. If keeping order in the study hall were the sole function, the school would do better to hire a policeman for this duty. Suggestions on how to help conduct supervised-study periods are mentioned in Chapter 3.

⁴William H. Burton, *The Guidance of Learning Activities*, Second Edition, Appleton-Century-Crofts, Inc., New York, 1952, p. 368.

A teacher of English says he corrects homework papers carefully about every fifth assignment. The other assignments he merely checks to see if the work has been done. Is this practice proper? Defend your answer.

In what ways might you as a study hall teacher help boys and girls improve their study hall habits? In addition to the present section you may find some suggestions in Chapter 3.

PROBLEM SOLVING

Perhaps one should not call problem solving a teaching technique. Nevertheless, teaching by means of problem solving is both useful and popular. It has been used successfully both as an individual and as a group activity. Solving of problems through group activity recently has been used extensively in teaching and in the world of business and research.

The method of problem solving

Whether a problem is solved by an individual or a group, the general technique is about the same. Perhaps this explains in part the popularity of problem solving. It seems to be a natural way to learn.

In a sense, problem solving is a sophisticated form of trial-and-error learning. It provides people a chance to learn from their successes and failures. Furthermore, it leads to real understanding in a way that memorization and drill seldom can, because it provides for the pupils' becoming really involved in their learning. A brief review of the steps will show how actively the pupil participates in learning through problem solving. The steps are:

1. The learner becomes aware of the problem.
2. He defines and delimits the problem.
3. He gathers evidence which may help him solve the problem.
4. He forms a hypothesis of what the solution to the problem is.
5. He tests the hypothesis.
6. He successfully solves the problem or he repeats steps 3, 4, and 5, or 4 and 5, until the problem is solved, or he gives up.

Selecting the problem

Although problem solving is a natural way to learn, pupils, as a general rule, do not naturally become expert in the techniques of

problem solving. This is particularly true when the class attempts to solve problems by group techniques.

In the first place, pupils need help in finding suitable problems. Sometimes the teacher may find it necessary to suggest problems or to suggest areas in which pupils may seek problems. When suggesting a problem to a group, the teacher might propose the problem directly, or he might set the stage in such a way that the problem will suggest itself to the pupils.

For instance, in a social studies class the teacher introduced a problem by telling of the number of people in the country who do not vote. She cited figures showing the lightness of the voting in the local municipal election. This led to a discussion of why citizens do not exercise their franchise. From this discussion the pupils developed two problems: the first, what causes the apathy of our citizens? and the second, what can be done to get people to vote at the city elections? In another class the teacher launched a group problem by asking the following question: How does a plant get its food? After a short discussion the group set out to find the answer to the problem.

No matter what the source of their problem, the pupils will probably need the teacher's guidance in the selection of a suitable one, for, left alone, even the most experienced adolescent, or group of adolescents, may flounder. Sometimes they can find no problem at all; sometimes they select problems not suitable to the course; and sometimes they select problems whose solution requires materials and equipment beyond the school's resources; sometimes they select problems too big and unyielding, blithely setting out to solve in a weekend problems their elders have struggled with for centuries. In view of these considerations, the teacher, or the teacher and pupils cooperatively, should test the problems to be selected against such criteria as: Is this problem pertinent? Is the necessary material available? Can it be completed in the time allotted?

Prepare a complete list of questions you feel should be considered in testing whether a problem should be selected or not.

Prepare a list of eight or ten problems which boys and girls might attempt in the study of a topic in a course in your field of major interest. Where might you advise boys and girls to search for suitable problems for such a topic?

"To be worthwhile, problems should be real and have real solutions."

Explain. Do you agree? How are such problems created and carried through to a conclusion?

Why is it often claimed that all secondary-school learning should be of the problem-solving variety?

Defining the problem

Once the problem has been selected, the teacher should help the pupils clarify and define the problem. This he can do by means of questions and suggestions. The important thing here is to get the problem sharply defined so that the pupil knows exactly what he wishes to find. Beginning teachers sometimes neglect this step. When they do, pupils find it difficult to know exactly what they are expected to do. This is, of course, a handicap in solving any problem.

Let us suppose that the problem selected has been: Why does an airplane fly? The problem here is quickly and easily defined, for it is obvious to all that we are to find what it is that keeps an airplane up in the air. Yet, even in such an easily defined problem, one may have to make it clear to some pupils that this problem does not refer to helicopters or to rockets.

Searching for clues

Once the pupil has defined his problem, he should start to look for clues for its solution. This involves amassing data upon which to base a hypothesis. Here the teacher can be of great help. He can point out areas in which to look for clues. He can provide the necessary materials, or see to it that they are available. He can provide references. He can acquaint the pupils with the tools by which one can gather data.

Even in the solving of group problems, the gathering of evidence may best be done by individuals or small groups. After a period of searching for information, the group could meet to pool the data gained individually and to attempt to find a solution to the problem.

For instance, if the problem should be preparing a menu suitable for a week's camping trip for a group of teen-agers, the pupils might gather the information necessary for solving this problem individually. Once they had in their possession information concerning what the ingredients of a healthful, well-balanced diet are, what foods contain these ingredients, and any other pertinent data, they might attempt to build suitable menus individually. The final menu

could be made during a class discussion using the individual suggestions. Of course, before the problem could be considered solved, the pupils should test it to be sure it meets the criteria of a healthful, well-balanced camp menu.

Solving the problem

Preparing the menu in the foregoing example was really an example of setting up and testing a hypothesis. Each individual menu prepared was a hypothetical solution to the problem. These solutions were tested by the pupils until they found one which met the requirements of a healthful, well-balanced diet. When they found such a menu, the problem was solved.

At this stage of solving a problem, boys and girls often need assistance. Many pupils find it difficult to think of tentative solutions. Although the teacher should be careful not to solve the problem for them, he can help put them on the track by pointing out relationships, by asking pointed questions, and by other techniques. Similarly, the teacher can help the pupils test their proposed solutions. Unless pupils establish appropriate criteria by which to judge the worth of a solution, pupils may think they have a problem solved when they really have not. Consequently, the teacher may need to help the pupil set up criteria which will tell him whether he has actually solved a problem or not, and help him check his solution against the criteria. Without this aid pupils often arrive at very poor solutions to their problems.

Select a problem which a pupil might attempt in one of your classes. Where might he look for clues? What materials should be available to the pupil? What tools of research might be needed to gather the necessary data? What skills would the pupil need? How could you prepare yourself to help a pupil gather the data for this problem?

SUMMARY

Reading, studying, and problem solving are so common in school work that teachers are likely to take them for granted. Actually, each calls for complex skills which pupils do not learn readily. Therefore it behooves the secondary-school teacher to help boys and girls with these skills when they need help. As a matter of fact, on many occasions, the teacher will find it necessary to teach the pupils

how to perform these operations. Moreover, the skills suitable for one course, subject, or field often are inappropriate for others. Competent teachers make a point of seeing to it that their pupils know how to read, study, and solve problems. They ordinarily make instruction in these skills part of their instruction in all of their courses.

FOR FURTHER READING

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CHAPTER 9

The materials of instruction

Mark Hopkins could conduct a school merely by sitting on one end of a log. Most teachers need more material than that. In fact, one might say that for most teachers the more materials available the better they can teach. This chapter will discuss some of the materials that are available and how they may be used to aid instruction.

THE USE OF AUDIO-VISUAL AIDS

Among the host of materials waiting to be used by the teacher are audio-visual aids of all sorts—films, film strips, pictures, maps, globes, charts, models, graphs, mock-ups, terrain boards, snapshots, slides, opaque projection, microprojector, vue graphs, microscopes, chalkboards, phonograph records, sound tapes, radio, television, dramatizations, and *realia*. This list is not exhaustive. Perhaps you can add to it. With such an abundance of material, how can we find what is best for our uses and how can we best use what we select? This problem will be the topic for discussion in the following paragraphs.

Purpose of audio-visual aids

The term "audio-visual aids" is an appropriate one because that is just what they are—aids to learning. Audio-visual aids can-

not substitute for real teaching. They have an entirely different role, a powerful role, it is true, but a role in support of teaching.

Audio-visual aids can help make ideas and concepts clear. As an earlier chapter points out, verbalism is one of the banes of the American secondary school. Audio-visual aids can help raise learning from verbalism to true understanding. The words "rubber bogey buffer bumper" may mean little to the reader, but, if he should see a picture or model of one, or watch one in operation in a moving picture, the words would probably become meaningful. Making words and phrases real is the greatest potential of audio-visual devices.

Audio-visual aids can also make learning interesting and vivid. A Chinese proverb tells us that one picture equals a thousand words. Whether or not this is true, good audio-visual aids have eye and ear appeal. By snaring our attention they make learning more effective. Audio-visual aids can be invaluable in promoting motivation and retention.

Using audio-visual aids properly

In a suburban school a beginning teacher surprised the supervisor by asking, "Is it all right to use film strips for my American history class?" "Of course," he replied, "Why not?" "Well," she said, "I tried one last week and the class gave me a lot of trouble. They seemed to think the film strip was kid stuff and they acted up something terrible." Yet that same day the supervisor had visited a class—supposedly a class of the toughest youngsters in school—where the teacher, who was using a film strip in science, had excellent interest and attention. The difference seemed to be that one teacher expected the film strip to teach itself; the other was really teaching with the film strip as an aid.

Audio-visual aids cannot teach by themselves. They need skillful teaching to make them effective. Just like any other instructional activity, audio-visual aids should be an integral part of the total plan selected because they seem best suited for that point in the lesson. And, as with any other activity, the teacher must prepare the class for the audio-visual activity, guide the class through it, and follow up after its completion.

Why is it impossible to substitute audio-visual aids for good teaching?

A certain school always presents moving pictures to all its children on Friday afternoon. Criticize this practice.

Selecting the audio-visual aid

In selecting an audio-visual aid, a teacher should consider, in addition to its suitability, such things as visibility, clearness, level of understanding, ease of presentation, and availability of material. To be sure that the aid is effective and appropriate, the teacher should try it out before using it with the class. This is particularly important in selecting films, film strips, and recordings. Sometimes films and recordings seem to have little resemblance to their descriptions in the catalog.

Preparing for the audio-visual activity

Before using an audio-visual activity, the teacher must prepare the pupils for it. This he can do by introducing the audio-visual material. Sometimes a short sentence identifying the aid and its purpose will suffice. At other times, one should spend considerable time discussing the purpose of the activity and suggesting how the pupils can get the most from it. For instance, the introduction to a moving picture should point out the purpose of the picture and suggest points that pupils should watch for in their viewing.

Not only must the teacher prepare the pupils for the activity, he must also prepare the activity itself. Nothing can be more embarrassing or more disruptive than movies which do not move, demonstrations which do not demonstrate, and other audio-visual fiascos. The competent teacher checks the little things. Does he have enough chalk? Are there extra fuses? Can everyone see the poster? Will the machine run? Attention to detail is particularly important in preparing for an audio-visual activity. More than one class has been upset by the lack of a piece of chalk, an exciter lamp, or an extension cord.

Care in preparation is particularly necessary when using projectors and other audio-visual machines. This type of equipment is effective and convenient but hardly foolproof. Before using such devices, the teacher should be sure to check everything possible. If he is going to use slides, he should be sure that they are all there

and in order. Before the class starts, he should check out the machine, be certain that it runs properly, and that it is focused. With some equipment the room must be almost completely dark. To be sure that the pupils can see he should try everything out under the conditions similar to those he expects in the class.

Guiding pupils through audio-visual activities

Instead of relieving the teacher of his responsibility for guiding pupils' learning, the use of audio-visual aids gives him an opportunity to make his guidance more fruitful. In order that the pupils get the most from the audio-visual aid, the teacher should point out to the pupils what to look for and what to listen for. Often it may be necessary for the teacher to explain to the pupils what they are seeing or hearing. To do this, the teacher would do well sometimes to provide the pupils with a list of questions or a study guide to direct their attention. On other occasions, he would be wise to stop to discuss vital relationships on the spot.

Suppose you order a film from an audio-visual center and when it arrives it turns out not to be what you had expected. What would you do?

Following up audio-visual activities

In spite of the appeal and vividness of audio-visual aids, they cannot prevent some pupils from misunderstanding or missing part of the instruction. The teacher should follow up the activity to bridge the gaps and to clear up misunderstandings. Follow-up also renews the learning and thus increases retention. Furthermore, it has motivational aspects. One danger in using films and film strips is that pupils sometimes think of these activities as recreational, and so give scant attention to them. If a teacher follows up activities featuring such audio-visual aids with discussion, review practice, and testing, he can usually correct this misapprehension and also point up and drive home the learning desired.

USING DIFFERENT KINDS OF AIDS

Chalkboards, bulletin boards, flannel boards, and charts

Now that we have discussed the proper use of audio-visual material in general, let us think of how to use some of them in par-

ticular. Perhaps the most commonplace of all audio-visual aids is the old-fashioned blackboard or its brighter modern counterpart, the chalkboard. This device is so omnipresent that many of us fail to think of it as an audio-visual aid at all; yet most teachers would be hard put if they had no chalkboards available.

Closely akin to the chalkboard are bulletin boards, flannelboards, and charts. The chalkboard and flannelboard are more flexible and versatile than the bulletin board and charts, although charts can be made more flexible by covering them with transparent acetate and writing on the acetate with china pencils. Similarly, large pieces of newsprint, cardboard, or wrapping paper may be used to draw and write on in the same manner as on a chalkboard. Chalkboards and flannelboards can best present material to be exhibited for a short time, while bulletin boards and charts may be used for more permanent exhibits.

Perhaps because the chalkboard is so familiar, teachers seem to be careless of their chalkboard techniques. Good chalkboard techniques do exist; they apply also to bulletin boards, flannelboards, and charts. Teachers should remember to use these tools properly.

The first point in the use of the chalkboard is that people cannot learn much from a visual aid they cannot see. It is important for teachers to write legibly, to use portions of the board within the pupils' range of vision, to write large, and to stand out of the pupils' line of sight. In passing, one might add that pointers are useful tools. They do not obstruct the view nearly as much as an arm, a shoulder, or a back.

A second point is that a neat, orderly board aids learning, whereas a cluttered board can be distracting. To get the best out of a chalkboard, bulletin board, or chart, it should be neat and orderly with plenty of "white space" so that the material to be learned or studied will stand out. Crowding materials on a board makes it unattractive and confusing. In the use of bulletin boards, neatness and attractiveness are extremely important, and here especially the teacher should strive for an uncluttered look. Bulletin boards and charts are more effective if they are arranged simply and tastefully.

To achieve a neat, uncluttered appearance and to reduce distractions, teachers should remove material from the chalkboards and bulletin boards as soon as it is no longer necessary. Courtesy

demands that when you vacate the room for another teacher, you leave the chalkboards clean and orderly. Most teachers object to cleaning up after others. Can you blame them? If one must leave something on the board, the courteous thing is first to ask the permission of any other teachers who use the room, and then to use a panel which would not be in their way. When one wishes to use the chalkboard it is most irritating to find a panel or two covered with "Please do not erase" signs.

Another technique that keeps down distraction is to cover material on boards and charts that one wishes to use later in the lesson. When this is not done, pupils are liable to pay more attention to aids planned for later use than to the lesson under discussion. This procedure also seems to make the aid more vivid and dramatic. On the other hand, in a classroom laboratory the material should be available so that pupils can consult it whenever necessary.

Among the charts which we may use in our classes are maps and graphs. The techniques used for other types of charts are, of course, useful with these variations; but the use of maps and graphs is often ineffective because the pupils do not understand how to read them. Therefore the teacher must be sure to teach the language and symbols of maps and graphs to the pupils who do not understand or the aid will be worthless to them.

Use of projectors

Many types of projection equipment are available. Among them are opaque projectors, slide projectors, film strip projectors, overhead projectors, microprojectors, as well as the ubiquitous motion picture projectors. These machines can bring to the entire class experiences which would otherwise be impossible, or possible only on an individual basis or at great cost. For example, if one wishes to show English money to a social studies class, one can project the images of a sixpence, shilling, florin, and half crown on a screen by means of an opaque projector so all can see at once. This technique allows all to pay attention to the presentation, something impossible if the coins should be passed around. Overhead projectors are quite versatile in that they allow the teacher to point things out, and to draw and write directly on the slide while projecting. Microprojection ensures that everyone sees what he is supposed to see in a microscope.

A word about motion pictures

At present, along with television, motion pictures are the most glamorous of audio-visual aids. So much so that not a few teachers depend upon films to do what these aids cannot do. To be effective, motion pictures must be used as described in the foregoing section. They need to be selected with care, previewed, introduced, and followed up. Remember, a darkened classroom is an excellent place for older students to sleep and for younger pupils to commit mischief.

Checking on the equipment is essential with motion pictures because the motion picture projector can be a peculiarly cranky machine. Running a little of the film immediately before the presentation to be sure all is working is a wise precaution. Once the film is in progress, projectionists should not sit back and relax; supervision of the film by checking the tension, loops, and the like can pay dividends.

In this day of sound movies and television one sometimes forgets that the silent motion pictures can also be an effective audio-visual aid. As a matter of fact sometimes the silent picture is more useful than the sound movie because the teacher can comment as the movie progresses, thus bringing out the salient points. With the silent film the teacher can also emphasize points by stopping the film and repeating a particular sequence as he explains and amplifies it.

What misconceptions are liable to rise from the use of aids such as the moving pictures? How can these be avoided?

What steps should you as teacher go through before presenting a film to a class?

Television and radio

Schools have yet to utilize the full potentialities of television and radio. Perhaps this is not to be wondered at, because so far the remarkable possibilities of the motion picture are far from realized in our schools. The potential of these devices is tremendous—at first glance almost limitless. Through these techniques the pupil can be present at the critical moments of history, he can see government in the making, he can watch great experiments in science,

he can visit the farthest corners of the earth, he can hear the famous symphonies, and see the great plays and operas. All these can be brought to him through television, radio, motion pictures, and recordings. These devices can bring to the pupils great experiences, but these experiences cannot take the place of teaching.

Certain school systems are conducting interesting experiments in which master teachers teach large classes by means of television. In such classes it is possible to bring to pupils teaching that they would not otherwise get. However, television teaching cannot take the place of the teacher in the classroom. Even when a master teacher conducts a television lesson, the classroom teacher still has to go through his standard routine. He must plan, he must select, he must introduce, he must guide, he must follow up, in order to fill in the gaps, correct misunderstandings, and guide the pupils' learning.

Other audio-visual material

Among the many other audio-visual materials available for use are pictures of all sorts. Pictures can be found in many places. Especially useful are the pictures in textbooks. In addition, teachers should collect as many pictures as they can. Not only are the pictures useful aids, but collecting them can also be fun. Specimens and other *realia* having to do with one's subject can be equally valuable and likewise fun to collect. In fact, numerous teachers have developed picture and specimen collecting into lifetime hobbies.

No particular technique is necessary in the use of these materials. However, if he uses a visual aid, the teacher should remember to display it in such a way that each pupil can see it clearly. He should also remember to point out whatever the pupils are to learn from the aid. One danger to avoid is that of exhibiting pictures just because one has them. While showing pupils a collection may be splendid fun, even for the pupils, one should be sure that the material is pertinent before wasting precious class time on it.

Models, replicas, and sand tables also make admirable audio-visual materials, and pupils can help in constructing them. In using pupil help in building aids of any sort, teachers should be wary of two dangerous faults: one, that the pupil may spend so much time creating the aid that he neglects the things he can learn from it;

and two, that inaccurate models may give pupils erroneous concepts.

Sources of audio-visual materials

Occasionally, teachers defend dull, humdrum teaching on the grounds that the school administration will not give them adequate materials. Usually such complaints are merely "buck-passing," although they may be signs of incompetence; for at the expense of a little ingenuity and initiative, boundless supplies of audio-visual materials are available in the poorest school. The following paragraphs attempt to show how audio-visual materials may be acquired. Of course, to show what is available in each of the various subjects and fields, and how to obtain it, is beyond the scope of this book. Therefore the discussion will attempt to point out only some sources which may be of general interest. The student desiring more specific information should consult texts and periodicals concerning his own subject field.

As intimated in an earlier section, building a file of pictures is relatively easy and can be considerable fun. In addition, such a file is so useful that the prospective teacher can hardly afford not to build one. One can start by collecting pictures from periodicals. Picture magazines, such as *Life*, *Look*, *The National Geographic Magazine*, and *Holiday*, are full of potentially useful pictures. So are the special interest magazines such as those devoted to popular science and history. Pictures are also obtainable from commercial sources such as museums, publishing houses, and so on, both by purchase or rental. Many libraries have pictures to lend to teachers for short or long periods.

Not only pictures but other materials, such as slides, specimens, souvenirs, models, and the like, are readily available for the asking. Many museums will send such material to schools free of charge. In almost every hamlet in the United States some villager has a collection of interesting materials which one could use with profit in the classroom. Usually he will be pleased to let the pupils see it. Quite often the most avid collectors are other teachers, particularly college professors.

Stores, factories, commercial concerns of all sorts are usually willing, and in some instances anxious, to give samples of raw and processed materials to the schools. At times such material is ac-

accompanied by pernicious advertising, but usually the objectionable material can be eliminated. Likewise, many firms offer films, slides, film strips, and other similar audio-visual materials free for the asking. Many of these materials are very good, although each should be carefully screened before using.

Films for rent

Of course, most of the more valuable classroom films are not lent to the school gratis. Since films are usually too expensive to be purchased by any but the largest school systems, most films used in the classroom are rented from film libraries. Your school will probably have a clear policy and procedure about renting films. This, of course, should be followed to the letter. The critical thing is to order films early. Good films are in demand; a late order may mean that you will have to do without.

Each renting library publishes a catalog of its films. In addition, film companies and other agencies publish catalogs and announcements of films. Hints about useful films can also be found in textbooks, curriculum guides, and resource units. Through these sources teachers can usually find films suitable to their purposes. Perhaps the list of sources on pages 171 and 172 may help the teacher. In using the list one should note that the list is not limited to films or even to audio-visual materials alone.

Home-made visual aids

Many visual aids can be made easily by the teacher and the pupils. The flannel board is a case in point. One can be constructed quickly by merely stretching a piece of flannel or felt across a board of the desired size, and tacking it down securely. Signs, pictures, letters, and so forth can be stuck on the flannel if their backs are covered with strips of sandpaper or felt. These flexible devices can be constructed by any teacher or pupil in a matter of minutes once the materials are on hand.

Two by two (35 mm) film slides and the larger glass slides can be created by both teachers and pupils. Making glass slides is not at all difficult. Commercial firms sell kits for making glass slides. With these materials one can make typewritten slides by typing on a special film or make other slides by writing or drawing directly on the glass.

Thirty-five millimeter photography is also an excellent source of slides. Thousands of slides are for sale, as one can see by thumbing through the photography magazines on display at the nearest newsstand. Furthermore, excellent 35 mm slides can be made locally. The teacher can usually find someone to make the slides for him, if he is not equipped to make them himself. The camera club would probably welcome such a project; if not, certainly one of the teacher's friends or pupils would be delighted to serve. Color slides are usually made by sending the exposed film to commercial concerns.

To produce film strips is more difficult than to make individual slides. This does not matter because the same effect can be achieved with slides, and the slides are more versatile. Of course, camera clubs and other local personnel can develop film strips and even motion pictures, if they wish.

What audio-visual aids are available to you? What aids can you create? How could you use them? Survey the situation. You will undoubtedly find a wealth of material you had not thought of before. Consider such things as: pictures, moving pictures, slides, microprojectors, chalkboards, bulletin boards, charts, graphs, diagrams, demonstrations, schematic representations, opaque projection, records, tapes, models, maps, globes, film strips, radio, television, feltboards, overhead projectors, tachistoscopes, displays, exhibits, aquaria, terraria, stereoptician slides, sand tables, and *realia*.

How can *realia* be used? Is the real object, if available, always the best aid to learning? Justify your answer.

OTHER MATERIALS OF INSTRUCTION

Where to find materials

Now let us turn briefly to the myriads of other materials of instruction and their sources. Materials for learning can be found almost everywhere. Among good sources of information concerning where to find materials of instruction are curriculum guides and source (resource) units, and references such as those cited below.

SOURCES OF TEACHING MATERIALS

Association for Supervision and Curriculum Development, *Using Free Materials in the Classroom*. The Association, Washington, D. C.

Educational Film Guide, H. W. Wilson Company, 950 University Avenue, New York.

Educator's Progress Service, *Educator's Guide to Free Films*, Randolph, Wisconsin.

———, *Educator's Guide to Free Tapes, Scripts, and Transcripts*.

———, *Guide to Free Curriculum Material*.

———, *Guide to Slide Films*.

Film Strip Guide, H. W. Wilson Company, 950 University Avenue, New York.

Free and Inexpensive Learning Materials, George Peabody College for Teachers, Nashville, Tennessee.

Materials for the Classroom, University of Florida, Gainesville, Florida.

Miller, Bruce, *Sources of Free and Inexpensive Pictures for the Classroom*, Bruce Miller, Box 369, Riverside, California.

———, *Sources of Free and Inexpensive Teaching Aids*.

———, *Sources of Free Pictures*.

———, *So You Want to Start a Picture File*.

Publication List, National Education Association, 1201 Sixteenth Street, Washington 6, D. C.

Sinclair, Thomas J., *Business Sponsored Teaching Aids*, S. A. Owen Publishing Company, Danville, New York.

U. S. Government Printing Office, *Catalogs* available in many areas, Washington, D. C.

U. S. Office of Education, *Publication of the United States Office of Education*, Department of Health, Education, and Welfare, Washington, D. C.

Something for Nothing for Your Classroom, Curriculum Library, Temple University, Philadelphia.

Standard Catalog for High School Libraries, H. W. Wilson Company, 950 University Avenue, New York.

Wood, Hugh B., *Free and Inexpensive Materials*, Cooperative Store, University of Oregon, Eugene, Oregon.

Information is available in such periodicals as:

Audio-Visual Guide

Booklist, The

Business Education World

Education Screen

English Journal

Film News

Film World

Journal of Business Education

Journal of National Education Association

Library Journal

Pamphleteer Monthly, The

School Review

Science Education

Social Education

Social Studies, The

Teaching Tools

Value of source units

As we have said before, source or resource units are excellent sources of information concerning materials of instruction. A source unit is designed not to be taught but to serve as a source from which the teacher can build a teaching unit for classroom use. It contains suggested objectives, learning activities, lists of materials of instruction, teaching aids, and other information valuable in unit building. Some source units are gauged for a definite grade level, but others may be used as a source for units at many levels and include tremendous amounts of material.

When such units are provided by the school system, the teacher should make use of them. If, however, none has been prepared in his school, the teacher can borrow from those available in other communities. Collections of source units may be found in the curriculum libraries of many school systems, schools of education, and state teachers colleges. Sample copies are sometimes exhibited at conventions of educational associations. Many of them are available for purchase. Sometimes they may be obtained free. Information concerning them may be obtained from your supervisor, the state department of education, and such professional organizations as the Association for Supervision and Curriculum Development.

Look at the resource unit, "Better Foods at Lower Cost," to be found in the appendix. Note the amount of material it presents. How might you use such a resource unit for your own teaching?

Finding free and inexpensive material

Much teaching material is free or inexpensive. Many teachers seem not to be aware of this fact. To illustrate, some science teachers have been known to bewail unnecessarily a shortage of equipment. *Science teachers should have equipment*, of course; yet the lack of equipment should not hamstring them. As suggested by the titles of Carleton J. Lynde's books, *Science Experiences With Ten Cent Store Equipment*, *Science Experiences With Inexpensive Equipment*, and *Science Experiences With Home Equipment*, one can find plenty of materials for science experiences even if equipment is scarce. Similarly one can find materials for each of the other subject fields if one looks.

A word of caution concerning free and inexpensive material. Although much free material is available, some of it is hardly worth cluttering up one's shelves. Consequently, one should cull the material quite thoroughly before presenting it to the pupils. In his examination of such material the teacher should be particularly alert for material which is merely advertising or propaganda.

Writing for material

When writing for free material, the teacher should use official school stationery. The letter should state exactly what you want, and why you want it. Many firms like to know just how the material will be used and how many persons will see it. Sometimes teachers ask pupils to write the letter. Although doing so is excellent practice for the pupils, some firms will honor only letters from the teacher. Of course, one can sidestep this problem by having pupils prepare letters for the teacher's signature or by having the teacher countersign the letter.

Making one's own materials

Frequently teachers need to make their own materials, particularly practice materials and study guides. Modern methods of duplicating written and typed materials are easy to use, and very versatile. With relatively little effort and ingenuity, teachers can duplicate exercises, diagrams, reading materials, assignments, study guides, and a multitude of other things. Once prepared, materials of this sort should be shared with other teachers. To hoard valuable teaching materials is wasteful.

An interesting technique used by a social studies teacher is to tear chapters out of old books and rebind them into pamphlets by stapling them into folders or notebook binders. By this technique the teacher amassed a considerable library of short articles on many topics pertinent to his social studies courses from discarded textbooks, *National Geographic Magazines*, and other books and periodicals at practically no expense. Not only was this a cheap method of securing reading matter, but reducing the books and periodicals to pamphlet form made a large number of different readings accessible at the same time. The scheme had the additional advantage of cleaning out numerous school closets and family attics.

A certain English teacher uses the same procedure to provide

exercises in grammar. She cuts up old textbooks to make files of exercises for use in grammar classes. Another English teacher collected exercises for punctuation study by having pupils submit sentences to be punctuated. These she collected until she had a large number of exercises which she reproduced for pupil use. A science teacher makes a habit of going around to garages and junk shops to pick up old switches and other materials which, with the help of his pupils, he turns into demonstration equipment for his laboratory. Another science teacher allows brilliant boys and girls to prepare microscope slides for class use. An art teacher prepares his own clay for ceramics classes by processing, with the help of his pupils, clay dug from a bank near a river a few miles from the school.

These incidents illustrate a few examples of the myriad sources of materials open to the ingenious teacher. What materials could you use for a class of your own? Where might you find these materials? How might you use them?

USING THE COMMUNITY

The community as a resource

Extending the classroom into the community can make a course exciting and forceful, for every community is a gold mine of resources for teaching. The experiences of the pupils as they get out into the community are not only a welcome change but also potent learning activities. Similar benefits can also come from bringing the community into the classroom. For this reason every school should have a file of community resources available. Individual teachers sometimes keep such files for use in their own classes, but probably a well-kept central file is more efficient, although the teacher will need to keep additional information applicable to his own classes. In this file the teacher should be able to find information concerning resource persons, instructional material which can be obtained locally, possible field trips, and projects.

Using resource people

Undoubtedly the most important resource of a community is its people. Even in a poor rural community the number of people who have special knowledge and talent that they can share effec-

tively with a class is amazing. Often these persons can bring to a class new authority, new interest, new information, and a new point of view. Among the people who might be good resource persons are town, county, state, or federal government employees, hobbyists, travelers, businessmen, college teachers, specialists, clergymen, and foreigners. Alumni, parents, and relatives of the pupils are frequently available and usually interested in visiting the schools. A certain chemistry teacher aroused class interest by featuring a visit by a metallurgist from a local brass mill. A source we sometimes forget are other teachers and school officials of our own or neighboring school systems.

Resource persons can be used for many purposes. They can provide pupils with help in specialized projects. If a pupil needs help in constructing a rocket as a science project, perhaps an officer from a nearby air defense battery would be willing to help show him how. Resource persons can provide information not otherwise readily available. For example, who would know more about soil conservation in your county than the local Soil Conservation Service agent?

Preparing for the guest speaker

Resource persons are frequently used as speakers. Before inviting a layman to speak to his class, the teacher should check to be sure that there is a reasonable chance for the success of the activity. Quite often one can find out a lot about the speaker from other teachers. In any case, you should visit him and talk to him about his subject. In your conversation you can probably determine whether he is the type who understands and can get along with young people. You can also probably determine whether he can speak at the young people's level. If his field is engineering and he discusses reaction motors only in the language of the professional engineer, he will not contribute much to the class.

When inviting a person to speak, you should brief him carefully on what he is to talk about and the purpose of the talk. A suitable agreement should be made concerning the length of the talk, the asking of questions, visual aids, and so forth. It is wise to remind the speaker of these agreements, the time, place, and topic in a letter of confirmation. The letter should be written diplomatically. Perhaps as good a form as any is to state the agreements as you under-

stand them and ask him if he concurs. You can also remind him of these commitments when you introduce him to the class.

The public announcement that he is to speak for ten minutes and then answer questions often has a desirable effect on a long-winded, rambling guest. Such precautions may seem far-fetched but they are sometimes necessary. It is most discouraging to have a speaker talk for forty minutes of a forty-five-minute period without letting the pupils ask one of the questions they have prepared.

The teacher should also prepare the pupils for the meeting. As with other instructional aids, they should know what to expect and what to look for. Quite often making up questions they would like answered is good preparation for listening to the speech and for the discussion period after the speech. Pupil questions may also be given to the speaker as a guide for his speech.

As a rule, speakers cannot be counted on to hold the attention of a class for a whole period. The guest appearance is usually much more successful if the formal speaking is kept quite short and the bulk of the program devoted to discussion and pupil questions. In fact, sometimes resource persons can be brought in purely to act as consultants for pupil discussion groups.

Conducting field trips

Particularly vivid learning experiences sometimes result from going out into the community. One of the most common devices used for extending the classroom into the community is the field trip. This method is a time-honored one. It has been used with great success for many years. Field trips come in many forms. A nature walk is a field trip. A visit to the museum is a field trip. So is a period spent on the athletic field searching for specimens of insects.

Conducting a field trip is much the same as conducting any other instructional activity. The pupils must be introduced to it, they must be briefed on what to look for, and the activity should be followed up. However, field trips do present certain special considerations such as scheduling, permissions, transportation, expense, and control.

Early in his planning, the teacher should talk the trip over with his principal or supervisor. Bringing the principal into the planning early will help in eliciting his support. Moreover, the

teacher will probably need the principal's assistance in arranging the administrative details as well as his authorization of the trip.

Before planning the trip, the teacher should make the trip himself, if possible, to see whether it would be worthwhile for the pupils and how it can be made most productive. He must arrange the details at the place to be visited. Many museums, factories, and other places of interest provide their own tour services. If they do, the teacher must be sure to let the proper persons know the purpose of the visit and what the pupils should see. He must also arrange for the necessary permissions, schedule changes, transportation, and so forth. Students can often help considerably in the planning and arranging of a field trip. However, the teacher should be careful to double- and triple-check himself on the details. He must also double-check to be sure that every one has a mission to perform on the field trip. The trip should not be a joy ride nor an outing but a real learning experience.

What are the advantages of taking pupils on field trips? What are the disadvantages?

Why must field trips be planned? What particularly must be considered in the planning? To what extent and in what ways can the pupils participate in planning and carrying out the plans?

Many field trips are not worth the time, trouble, and expense. How can you ensure that your field trips are not merely outings?

Studying the community

A field trip is one way to study an aspect of the community. There are other ways, of course. One of them is to read and study. A surprisingly large amount of printed information is available about almost every community. This material may include reports of the federal, state, and local governments; releases by the Chamber of Commerce and similar agencies; stories in the local press; advertising and promotional literature from local concerns; publications of local civic and fraternal organizations; and sometimes articles in state and national publications. Furthermore, pupils can sometimes avail themselves of unpublished material. A pupil in a New England community for instance was allowed to use old school records to write an historical account of the founding of the local school system in the early nineteenth century.

One may study a community by interviewing its prominent

citizens. However, this method is not always fruitful because many persons find interview techniques difficult to use. If pupils are to apply them in community study, they should be properly instructed in their use. The teacher should provide demonstrations of good interview techniques, and the pupils should practice on themselves before practicing on adults. Of course adults, particularly important adults, will make allowances for the errors of pupils who interview them. Nevertheless, you will want pupils to make a good impression on the people interviewed. For this reason, if no other, the pupils should be well rehearsed in their roles before leaving for the interview.

Another excellent method to use in studying the community is observation. The familiar devices of keeping a record of the foods pupils eat, so often used in health, hygiene, biology, and home economics classes, is an example of this type of study. Counting the number of cars that do not come to a full stop at a stop sign is another. Ordinarily, for observation to be successful, the observer needs to be well briefed in what he is looking for. He needs to have criteria by which to objectify his observation and some system of recording it. Usually a checklist, or rating scale, or similar form is helpful to observers both for recording and for objectifying the observations. Since accurate observation is rather difficult, pupils who engage in such techniques should be instructed in their use. Quite often practice sessions will be beneficial.

Conducting a community survey

Another technique sometimes used successfully in studying a community is the survey. A community survey is a study of the status of something in the community. It might consist of a study of the opinions of citizens regarding the forthcoming election, or a study of sanitary conditions in a certain ward. Thus a survey can be a two-edged sword. Well planned, it can bring pupils face to face with the realities in the community. Poorly planned, it can result in erroneous learning and impaired public relations. Therefore every community survey should be prepared thoroughly and planned carefully. Before the pupils begin, they should be well versed in the topic to be investigated and the techniques they are to use. A poorly prepared survey is seldom worth the pupils' effort.

Gathering and interpreting the data can be troublesome. The

actual gathering of the data may be done in many ways. Among them are the interview, the questionnaire, observation, and combinations of these and other techniques. Planning for the use of these techniques should be done carefully so as not to waste the time of the respondents and so that the data gathered are really useful. The interpretation of the data should be approached with even more caution. One should set up criteria to differentiate between important and unimportant data, and meaningful and meaningless data. Moreover, one should set up criteria to determine the meaning of the data. This can often be done by inspection, but in some classes one may wish to apply simple statistical procedures. High-school pupils can learn to use these procedures readily. Information concerning their use may be found in any textbook on educational measurement or statistics. Many of the newer high-school mathematics texts discuss these procedures as well.

Teachers and pupils are sometimes tempted to make public the results of their survey. In most cases the temptation should be resisted, and the survey should be reported to the class only. If it seems desirable to make the report public, the teacher should consult his administrative superior before releasing anything. In addition, he can sometimes consult with a group of laymen in collaboration with his superior. In any event the report should be made public only if it is outstanding and if its public release will enhance the relationship of the school and the community.

With the possible exception of requiring a little more imagination, this type of activity is not particularly different from any other. As in any other activity involving the community, the planning should be exceptionally good. If the project involves meeting the public, the pupils should be well versed in their roles.

Conducting community service projects

One evening in a suburban city a group of teen-agers went from house to house ringing doorbells. They were social-studies pupils conducting a campaign to inform voters of the issues in the coming elections and to persuade them to vote. Such service projects are another effective way to extend the classroom into the community. Quite often such activities get at objectives which the more usual classroom activities fail to reach. The techniques for preparing pupils for community study are equally efficacious in preparing them for a service project.

Securing administrative approval

As one can readily see, the get-out-the-vote project just mentioned is one which, if improperly handled, could lead to complications. One can well imagine that the school administrators were particularly concerned with the conduct of this activity. So it is with almost every activity involving the community. Projects of this sort have been known to upset school-community relations. For this reason the teacher should always secure the advice and consent of his administrative and supervisory superiors before attempting such activities. In communities where the climate of opinion is not right, these activities will have to be forgone. The administration may find it necessary to withhold permission for other reasons also. Perhaps the proposal would interfere with other activities or classes; perhaps the timing would not be propitious; perhaps the community has had a surfeit of school surveys or service projects; perhaps the budget would not stand the expense. The decision about whether the activity should or should not be attempted is the administrator's prerogative.

What might be a community service project suitable for use in your community? If you were to attempt to use this project, what preparations and precautions would you take?

In your own circle of friends and relatives, how many of them have special skills and knowledges which they might share with secondary-school pupils? How might you use the resources of these people in a secondary-school class?

How would you go about preparing a group of pupils to interview the mayor of your community?

SUMMARY

Good teachers can be better teachers when they have plenty of materials to work with. Fortunately, American teachers are blessed with materials galore, although some may have to search a little to find them. Prominent on the list are audio-visual aids—films, pictures, maps, globes, charts, models, graphs, mock-ups, terrain boards, radio, television, chalkboards, and tack boards. All of them are excellent aids to teaching if one uses them well, but they are not miracle drugs. They alone cannot do the job of teaching. The same teaching techniques—introducing, explaining, problem solving, fol-

low-up, and evaluation—which one uses in other teaching are also needed to get the most from audio-visual aids.

Some audio-visual materials are expensive and hard to get. This is true of other materials also. But this fact should not discourage the teacher. Much material is available for the asking. Much more can be made or improvised. Hints of how to obtain and create such materials may be found in the catalogs, curriculum guides, source units, and periodicals on the subject. Today no teacher has an excuse for not having a supply of suitable materials.

FOR FURTHER READING

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CHAPTER 10

Evaluation

A basis for next steps

In order to guide his ship in its proper course, a navigator must know where he is. He therefore keeps a running record of his approximate position and frequently checks to fix his exact position. *He must do so in order to know in what direction to lay his course.* If he does not know where he is, how can he tell in what direction to go? So it is with teaching. We must know where we are in order to know in which way to go. We must continuously appraise and reappraise *our position.* This appraisal of the teaching-learning situation is called evaluation.

Evaluation is also used to ascertain a pupil's status and the worth of his school work. In short, it is used as a basis for school marks, reporting to parents, and promotion. While this role of evaluation has its place, it should not be evaluation's primary role. When our navigator finds his position, he may be elated to know that the day's run has been satisfactory or chagrined to find that *he is considerably off course.* But *that is not the end of it.* He lays a new course that will take him where he wants to go in the light of the new information. *Evaluation is much too dynamic a process to be limited to pronouncements concerning the value of something.* In teaching, its primary purpose should be diagnosis and finding one's bearings as a basis for deciding the next steps to take.

The need for definite goals

To evaluate, one must know not only where he is but where he wants to go. This destination is his goal. One can judge one's

progress by finding out how close one has come to it. In teaching, the goals are the learnings the teacher is trying to teach his pupils. These goals should be specific and definite. Unless they describe specific learning products and indicate standards of excellence, there is no way to tell how well the pupils are progressing. Effective evaluation depends upon definite goals. For this reason it is recommended that for each lesson and unit the objectives, which are the teacher's goals, be stated specifically in simple declarative sentences.

Evaluation vs. measurement

The basis of evaluation is judgment. This is the quality which makes evaluation differ from measurement. Measurement describes a situation; evaluation judges its worth or value. For instance, the score of a student's test may be 70. This in itself does not tell us much of anything. Is 70 good or bad? No one can say until he has more information. If 70 represents the highest score of all the students of our school, that may indicate one thing; if it represents the lowest score, it may indicate another; if it is the lowest score, but the work of a brilliant student, it may indicate something else; if it is the lowest score, but the best effort of the slowest pupil, it may indicate something else again. Evaluation is the judgment or interpretation that one draws from the information at hand about a pupil's work. It is the basis upon which one determines, What next?

Measurement is also essential for evaluation. Only by measuring can we hope to ascertain the status of the pupil's learning at the moment. Measurement can also give us information about the approximate status of other aspects of the pupil's personality. From these measurements we can evaluate the learning or other personality trait in light of our goals. Measurement is only a tool to be used in evaluation. Used by itself it is meaningless, but without it evaluation is likely to be very erratic indeed.

The remaining sections of this chapter will discuss the role of evaluation in diagnosis and promotion, and the use of certain evaluative devices. Other chapters will consider the use of tests, and marking and reporting to parents.

What is the difference between measurement and evaluation?

What can test results be used for? What are the most valid uses of test scores?

DIAGNOSIS

The need for diagnosis

In treating an ill person, a physician must first find out what the patient's illness is and, if possible, what is causing it. Then and then only can he treat the disease successfully. If he cannot determine what the disease is, he can treat only the symptoms. This treatment may or may not help cure the disease, but it certainly is not efficient.

Sometimes a physician may determine the ailment, but not be able to ascertain its cause. In cases of this type the physician may be prevented from giving the patient effective help by the lack of this vital information. Even though he may be able to clear up a specific attack, his lack of information may make it impossible for him to prevent a recurrence of the illness.

So it is with teachers. Much of our work has to do with boys and girls who are in poor academic health. In order to improve their health the teacher must:

1. Find that a difficulty exists.
2. Find exactly what the difficulty is.
3. Find the cause of the difficulty.

This is diagnosis. Without it, teaching flounders. To be sure, these steps must be followed up by teaching directed toward correcting whatever seems to be wrong or lacking. But without diagnosis, teaching can have little direction.

The level of diagnosis

For purposes of discussion perhaps we can divide diagnosis into two general categories. The first type is used in the ordinary classroom for the diagnosing of relatively normal pupils; the second is the diagnosis of particular individuals who are having difficulty. There is little difference in principle between the two types; the difference is mainly one of the extent and purpose of the diagnosis. Ordinarily, we should be more careful in analyzing a pupil for whom we are setting up a special remedial program than in analyzing a pupil who has no great problems, although, on occasion, examination and diagnosis of the supposedly normal pupil will show the need for more detailed analysis.

Burton¹ says there are three levels of diagnosis: (1) general diagnosis, (2) analytical diagnosis, and (3) psychological diagnosis. These levels are similar to the three steps which we mentioned earlier in the chapter: finding out if a difficulty exists, finding out exactly what the difficulty is, and finding out the cause of the difficulty.

The first level of diagnosis seems similar to a physical examination. It gives us a picture of the status of the learning of the individual and of the class. In order to do this, we administer standardized tests and use other evaluative devices available to us. These devices show us whether our pupil is strong or weak. If the pupil has something wrong with him, they show us, in general, where the trouble lies and, perhaps in general, what its cause may be.

Standardized tests are not the only source of such information. Teacher-built tests are also effective in giving the teacher the type of information he desires. Other good sources of information are cumulative records and reports and the results of observation, check-lists, and conferences.

Suppose that after studying the lever in a physics class, you gave a test and found that all of the pupils did not measure up to your expectations in their understanding of the fulcrum. What would your diagnosis of the situation be? Would it be different if most of the pupils did understand and only a few did not? Would it be different if only one or two did not understand? What could have caused these pupils to fail to learn as well as you expected?

The second level of diagnosis is used when one has discovered that *something needs to be done to help individual pupils with their learning problems*. Suppose, for instance, that one of the pupils in your science class does not seem to be up to standard. What information would you need to help him? At this second level of diagnosis the teacher attempts to find out exactly what the pupil's difficulty is. This he tries to do by a detailed analysis. Such analysis often requires the use of diagnostic tests and other devices. These devices are finer measures than those used at level 1. They enable one to examine more analytically a smaller area of learning.

The third level, namely psychological analysis, attempts to find the causes underlying the pupil's learning difficulties. Why did he

¹ William H. Burton, *The Guidance of Learning Activities*, Second Edition, Appleton-Century-Crofts, Inc., New York, 1952, p. 164.

not learn? Why does the error persist? What is the real cause? The reasons for not learning are often quite complex and not readily available. Diagnosis at this level is an attempt to get underneath the symptoms, and may require a careful case study utilizing all the resources of the guidance department—anecdotal reports, cumulative records, conferences, health status, and home visits.

Initial diagnosis in the classroom

Diagnosis should be going on every day in every classroom. For the most efficient teaching, the teacher should make a general diagnosis of pupil learning difficulties at the beginning of the year and continue with similar diagnoses as each unit of work is carried to completion. For an initial diagnosis one can give a standardized survey test to ascertain each pupil's initial position in relation to the goals of the course. Frequently teacher-made tests are satisfactory for this purpose as standardized tests. In many courses an objective paper and pencil test would be a good device to show how each pupil stands, while in others another type of test would be desirable. Paper and pencil tests are usually not the best device for measuring skills, attitudes, appreciations, and ideals. To get at these learnings, the teacher might do better with checklists, observation, analysis of papers, rating of skills, rating of products, questionnaires, and reports of previous teachers. While the initial diagnosis cannot always be completed immediately, it should be developed during the first unit. The more information the teacher has at the beginning of the course, the better and sooner will he be able to make this diagnosis.

Continuing the diagnosis

After the initial diagnosis the teacher should continue to diagnose, revising, if necessary, as he goes along. Certainly the teacher should attempt to take stock at the end of every unit. This can be done simply by testing the pupils to see where they stand in relation to the goals of the unit. For example, two of the sample specific objectives on page 91 are:

1. Strong ties of friendship have developed between the United States and Great Britain during the twentieth century.
2. The American State Department, beginning with the days of John Hay

and continuing to the present, has cooperated with the British Foreign Office in matters of international importance to both nations.

In an objective test one might use items like the following to see how well the pupils had achieved these objectives:

1. During the first half of the twentieth century, relations between the United States and Great Britain have been
 - a. friendly
 - b. neutral
 - c. unfriendly
 - d. inimical.

(Designed to check the first objective.)

2. Give five examples of how the British Foreign Office has cooperated with the United States in matters of international importance to both nations.

(Designed to check the second objective.)

Essay test items can be used in the same way. In this unit one specific objective was:

The ties [of friendship] which draw the United States closer to the Commonwealth are based upon our common language, customs, and traditions.

To test this objective one might use the following essay item:

What tends to draw the United States and Great Britain together?

To test attitudes, ideals, and appreciations by means of paper and pencil tests is more difficult. Pupils are likely to give the answer the teacher wants rather than what they really believe. For instance, one of the attitudes which might be a goal in this same unit is: In international affairs, as well as private affairs, one should deal justly with all. If, to test this attitude, one should ask, "Should the United States respect the rights of other nations?" the clever pupils would answer "Yes," because they know that is the answer the teacher expects. However, if the teacher poses for discussion a problem in which the United States can gain an advantage by violating the rights of a small nation, one may learn individuals' true attitudes by observing their reaction to the problem. The reaction of the pupils during a discussion of this topic might be quite re-

vealing. Other methods of getting at attitudes, e.g., observation, rating scales, check lists, questionnaires, and analysis of papers, are discussed elsewhere in this chapter.

Following are four other attitudes, ideals, and appreciations which might be goals for the unit "From Empire to Commonwealth." How might one get at these objectives?

1. No nation can depend entirely on itself.
2. The achievements of the British people deserve our respect.
3. *Cooperation is more desirable than warfare in international relations.*
4. *One should respect the rights and feelings of others.*

Diagnosis by item analysis

After the test has been given and scored, what does it tell us? If the test items have been aimed at specific objectives, an item analysis will give us the information fairly easily. All one needs to do is to see how well each individual responded to the items designed to test the various objectives. The following table is an example of an item analysis.

		Item				Pupils							
			A	B	C	D	E	F	G	H	I	J	K
Obj. I	{	1	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
		2	✓	✓	✓		✓				✓		
		3	✓		✓				✓				
		4	✓	✓	✓		✓	✓	✓			✓	
Obj. II	{	5								*			
		6	✓			✓							✓
		7											
		8							✓				
Obj. III	{	9	✓	✓	✓	✓		✓	✓		✓	✓	✓
		10	✓		✓	✓	✓		✓		✓	✓	✓
		11		✓	✓	✓			✓				
		12	✓	✓	✓	✓	✓	✓	✓		✓		✓

What information can you get about the various pupils by referring to this table? What information does it tell you about the teacher goals? Would it be always necessary to build such a chart? What other purposes might the table serve?

A basis for remedial procedures

At times it will become evident that some pupils are falling behind. Their difficulties may be more serious than their inability to reach the goal of a unit—in some cases much more serious. For these persons other techniques are necessary. Some pupils may need the specialized help of remedial classes and teachers, if available. Others can perhaps be helped by the classroom teacher in the classroom.

In dealing with pupils who need specialized remedial work, diagnosis must be much more far-reaching than in the ordinary classroom. Several books on remedial teaching give clear, definite, and detailed procedures. Before he plans any remedial work, the teacher should consult these texts. An excellent work is Blair, *Diagnostic and Remedial Teaching*,² on which much of the following information is based. Textbooks in the testing field also give considerable information on diagnostic tests and procedures. Particularly helpful are the textbooks devoted to remedial work in various subject matter fields.

The first thing to do, after ascertaining that a difficulty exists, is to determine exactly what the nature of the difficulty is. For example, John is doing very badly in algebra. A check of his papers shows that one cause of his trouble seems to be his arithmetic. Consequently, the next step would be to try to find what the exact trouble is. Perhaps a diagnostic arithmetic test can determine just what causes the trouble in arithmetic. If no such test is available, perhaps one can find out the trouble in a conference, or by a study of the pupil's papers, or by giving him specific work in arithmetic and checking to see just what type of errors he makes. In any case, a painstaking search for the exact trouble is imperative if the remedial teaching is to be of any value at all.

Using diagnostic tests

To find the pupil's difficulty, the teacher today has access to a multitude of diagnostic tests. Listings of such tests may be found in such books as Blair's *Diagnostic and Remedial Teaching*, mentioned earlier, and Buros' *Mental Measurement Yearbooks*. Before

² Glenn Myers Blair, *Diagnostic and Remedial Teaching*, The Macmillan Company, New York, 1936.

selecting a diagnostic test for any particular mission, the teacher should examine several and compare them carefully. Not all of the tests are equally good. In fact, some tests are downright bad. Moreover, not all of the good tests do each job equally well. The teacher in search of a diagnostic test should consult the references and apply the criteria for test selection noted in Chapter 11.

Using other diagnostic devices

In addition to diagnostic tests, many other devices may be used for diagnosis. In a preceding paragraph an example of observation of attitudes was mentioned. Another example of a device which might be employed is the following scheme sometimes used to determine whether or not a book is beyond a certain pupil's reading ability. The technique is amazingly simple. One just gives to the pupil a portion of the book to read and then tests him on it. If he can answer the questions, the work is probably not too difficult for him; if he stumbles, the teacher can try him on increasingly less difficult material until a book he can read and understand is found. If the teacher takes the selections from a graded series, he can also ascertain the pupil's approximate reading level by this technique. However, before using the technique as an index of reading level, the teacher should note that all books of a given grade level are not equally difficult, and also that some pupils find it more difficult to read in some subject matter areas than in others.

Both of the techniques described above are a form of controlled observation. Other useful techniques include analysis of written work, analysis of oral work, analysis of records, checklists, rating scales, and conferences. Specific techniques may be found in reference works on diagnostic and remedial teaching.

One common problem is the inability to grasp the point of a paragraph. A simple method for testing this ability is to have the pupil read a paragraph and then ask him what it said. This technique may also be used in arithmetic to see whether or not the pupil can read and understand the problem. Similarly, questioning a pupil about his mathematics paper might disclose that he does not know how to marshal his facts in order to attack a problem. In mathematics, and in other subjects as well, an analysis of the pupils' papers might show errors in their thinking, poor problem-solving techniques, or a lack of understanding of the fundamental processes.

Sometimes questionnaires and conferences with the pupil or his parents can be very useful in uncovering faulty study habits and procedures.

How might one use a rating scale in diagnosis?

A practice teacher suggests that one method of diagnosing pupil difficulty is to ask the pupil about his troubles. What do you think of this technique?

A pupil in one of your classes, although seemingly bright enough in class discussion, invariably does poorly on the tests. What could you do to find out why this is so?

The psychological level of diagnosis

The tests and other diagnostic devices just described are used to locate the specific difficulty in a remedial situation. They are useful at diagnosis level number 2. They tell one what is wrong. Often a direct attack at the difficulty, once it is known, will be sufficient to correct the trouble.

Sometimes, however, to aid the pupil one must get beneath the trouble and find what is causing it. This is diagnosis at the third level—what Burton calls *the psychological level of diagnosis*. In this type of diagnosis one tries to determine which of the possible blocks to learning are responsible for his not learning. Typical causes, among others, might include physical defects, poor health, emotional problems, social influences, home and community influences, intellectual limitations, and insufficient academic background.

To track down these causes, the methods described in the section concerning "Knowing the Pupil" may be helpful. In difficult cases one of the most reliable approaches is the case study. Also effective are such techniques as analysis of records, observation, physical examination, and psychological examination. Many things can be done by the classroom teacher himself. For instance, he can conduct simple tests to find defects in vision or hearing and search records for data which may throw light on the difficulty. If possible, however, the teacher should enlist the aid of a specialist—a remedial teacher, a school psychologist, or a guidance person. When available, the services of an educational clinic are usually worthwhile. Diagnosis at this level deserves expert handling. The competent teacher should get all the help with it that he can.

PROMOTION

Desirability of continuous promotion

Promotion is a peculiarly perplexing evaluation problem. Promotion should be based on readiness. Pupils should progress through their course work in orderly fashion. A pupil should stay with a particular course or unit long enough to learn the material well and then move on. In other words, he should be promoted when he is ready. Promotion based on readiness is called continuous promotion.

Unfortunately, the secondary school is seldom organized in a manner suitable for continuous promotion. Examples of this system are more likely to be seen in the ungraded primary rooms found in some elementary schools. The difficulty with continuous promotions comes from the fact that our schools are graded. At the end of a year the youngster either must go on to the next grade or return to the beginning of his present grade. This system makes little sense. Our present pass-or-fail promotion policies may either make the pupil repeat material he has already learned, or force him ahead to more difficult material before he is ready.

Setting standards for promotion

Although continuous promotion is not usually feasible in our secondary schools, the principles behind it do apply to promotion in general. The basic criterion for judging whether a pupil should be promoted is whether or not he is ready to profit from the next higher course in the subject. Even though the pupil does not intend to go on to the next course, the principle still holds in general, although perhaps it need not be applied quite so stringently in this instance. In other words, teachers should have standards of minimum achievement for their courses, and these standards should represent what is required of the pupil before he is ready for the next higher course.

The role of social promotion

Although ordinarily one should promote only those who are ready, on occasion pupils are promoted whether they are ready or not. Usually when this is done, it is an attempt to keep the pupil in a social group with which he is compatible. This is called social promotion. On occasion, it is justified. The old practice of keeping

sixteen-year-olds in third-grade classes was cruel. An example of a well-justified social promotion follows.

A junior-high-school boy was reading well below his grade level. Although evidently of at least normal intelligence, he was quite incapable of doing junior-high-school work. The boy also suffered from an acute speech defect and certain other emotional problems. The school psychiatrist examined the boy and recommended a social promotion as a means of helping him find himself. In this case the promotion was justified. But social promotions are not always justified. Too often the young people are promoted to free the classrooms and because of a mistaken attempt to be democratic. Fortunately, social promotion is usually confined to the elementary grades and less usually to the junior high school. One rarely encounters social promotion in the high school.

To what extent can one apply the principles of continuous promotion in the ordinary secondary school?

Do you agree that social promotion was justified in the example cited above?

A boy is completing his second year in Latin I. He is definitely not yet capable of doing the work of Latin II. What do you recommend the teachers do as far as promotion is concerned?

Two final considerations

Although the teacher should maintain standards, these standards should be flexible. The fact that a pupil has not mastered the material of a course may not be a sufficient reason for keeping him back. On the other hand, merely spending a year in a classroom is not a sufficient reason for promoting him either. Some pupils should repeat courses. Each problem of promotion should be decided on its own merits. In applying promotion standards to a particular case, one should bear in mind two main considerations: (1) How will the decision affect the pupil concerned? and (2) How will the decision affect the other pupils? Probably the final criterion should be: Which would benefit the pupil more? If it seems that the youngster would benefit from repeating the course another year, let him repeat it; if, on the other hand, there seems to be no reason to think that another year would be beneficial, let him move on. However, one should also consider the other pupils. How will promoting this pupil affect them? How will it affect pupil motivation? and morale? Will promoting him be fair to the others? If promoting a pupil will injure

pupil motivation and morale in any way, one should weigh the case carefully before deciding to promote the pupil.

To pass or not to pass

Deciding whether a pupil should pass or fail often calls for difficult decisions. To illustrate the complexity of the problem let us consider the following situation. In your Algebra I class you have a youngster who has done poor work. It is your *considered opinion* that he just is not a mathematician. He is unable to do the work, no matter how hard he tries—and he seems to have tried very hard. He and his family are determined that he go on to college and insist that he continue with mathematics. Presumably, if he passes Algebra I, he will try Algebra II for which he is definitely not ready. What should you do? What would be best for the boy? To pass and attempt Algebra II? To fail and to repeat Algebra I? Is there some other way out? What about the effect on the other pupils? What information do you need and what must you consider to answer this problem intelligently?

As you can see, if you try to think this problem through, it probably has no truly satisfactory answer. Fortunately, many schools help the teacher in making this decision by establishing quite definite school policies concerning promotion. When they do, the teacher should try to follow the policy. Other schools have no formal policy, although there may be an informal one. Even if there is no policy at all, the principal can advise what one ought to do. Even so, the decision of whether or not to promote must be made by the teacher on the basis of what is best for the pupil himself and for other pupils in the school within the limits set by school policy.

EVALUATIVE DEVICES

Limitations of tests

Although paper and pencil tests are the commonest tool used in measuring pupil progress, they often fail to give us the most important information we want in the evaluation of a pupil. By their very nature, paper and pencil tests are more likely to test *knowing-about* than *knowing*, verbalizations rather than the ability to do, or platitudes rather than changes in attitude or behavior. Since understandings, abilities, and changes in attitudes or behavior are the essential goals of the unit, one must use other devices and tech-

niques to supplement the formal tests and get at these important learnings. The following paragraphs will endeavor to point out how some of these devices can be used to advantage.

Evaluation by means of observation

Perhaps the most common basis for judging the behavior of another person is to observe him. This technique is as old as mankind. Unfortunately, it has several limitations. Observers are notoriously unreliable. The behavior of the pupil is often different when he knows he is being observed. However, to a degree, these limitations can be reduced by careful observation. A helpful technique is to determine in advance what to observe and how to observe it. Another is to set up a checklist, rating scale, or some other written guide to help objectify one's observation. Rating scales and checklists are especially helpful in judging skills and changes in behavior.

Rating scales and checklists can also be used to help objectify the evaluation of products of the pupil's work, such as a lamp made in an industrial arts class, or a composition or theme. Such devices have the advantage of showing the pupil an analysis of the rater's evaluation and also of preventing the rater from being unduly influenced by any one aspect of the work being evaluated.

In using such tools, the final evaluation can be made dependent upon a numerical score. However, one must always remember that the evaluation of literary and art works and other creative activities cannot be reduced safely to numerical scores. To avoid cul-de-sacs, the rater should allow for the possibility that a simple aspect of a creative work might outweigh all others, and that some items may be completely inapplicable to certain works. Consequently, subjective rating from an inspection of a rating scale may be considerably superior to mechanical rating on the strength of a total score or average of the ratings.

Preparing a rating scale

One can make rating scales and checklists quite easily. To make a rating scale, merely decide what characteristics you wish to rate. Then arrange a scale for each of these characteristics. Since a five-point scale is about all a rater can handle, there is little point in making finer distinctions. If each point of the scale is labeled, the rating is much easier.

Suppose we wish to build a scale to use as a guide for judging the

excellence of some posters which pupils have prepared. First we must decide what to consider in judging the posters. Let us say that among other things we wish to include neatness, lettering, eye appeal, and design. We then provide a rating scale similar to the following:

RATING SCALE FOR POSTERS

Design

Crystalline beautiful perfect	Clear well- balanced pleasing	Mediocre	Confusing poorly- balanced crowded	Hodge- podge
-------------------------------------	--	----------	---	-----------------

Neatness

Meticulous	Excellent	Average	Fair	Sloppy
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Lettering

Superior	Excellent	Average	Fair	Poor
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Eye Appeal

Overwhelming	Intriguing	Catchy	Dull	Insipid
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In this example the points on the scale are noted by descriptive words and phrases. Another plan is to use numbers as in the following scale for evaluating themes. Five equals the highest rating and one the lowest. "NA" means "not applicable." The scale is used by circling the number desired.

RATING SCALE FOR WRITTEN WORK

(Circle number indicating rating. Code: 5, highest; 1, lowest; NA, not applicable)

1. Originality

5 4 3 2 1 NA

2. Vividness of expression

5 4 3 2 1 NA

3. Clearness

5 4 3 2 1 NA

• • •

11. Spelling

5 4 3 2 1 NA

12. Sentence structure

5 4 3 2 1 NA

Preparing a checklist

Checklists are prepared in much the same way as rating scales. However, instead of making a scale we prepare a list on which the

rater can indicate the presence or absence of certain qualities or characteristics by checking.

For instance, in checking some plastic letter openers that the pupils had made in his industrial arts class, the teacher might make up a checklist like the following:

CHECKLIST FOR
PLASTIC LETTER OPENER—*General Shop I*

Check each item if the letter opener is up to standard in this particular:

- () 1. The blade is properly shaped.
- () 2. All saw marks are removed.
- () 3. The plastic is free from warping and pitting.

As the teacher inspects the letter openers, he will check the applicable items. This will give him a firm basis for evaluating the product.

In the following device, used for rating the speech of college students preparing for teaching, spaces are left blank so that the rater can either check or make some comment for each of the various items.

SPEECH QUALIFICATION RATING SHEET

	<i>Explanation</i>	<i>Reading</i>	<i>Questioning</i>
Poised	_____	_____	_____
Direct	_____	_____	_____
Animated	_____	_____	_____
Distinct	_____	_____	_____
Audible	_____	_____	_____
Fluent	_____	_____	_____
Clear (ver)	_____	_____	_____
(vis)	_____	_____	_____
<i>Pronunciation</i>			
<i>Recommendation</i>			

Is it really possible to objectify observation? Explain.

Compare the various types of rating scales and checklists given above. What are the strong points and weak points of each? Why?

Using the behavior log

Observation is particularly important in gaining information about the attitudes, behavior, and abilities of pupils. The everyday

behavior of the pupils can tell the teacher much. By keeping a behavior log for each pupil the teacher can amass useful information. A behavior log need not be very complicated. Usually it consists merely of a notebook with a page for each pupil. On this page the teacher notes any occurrences that seem to be significant. The entries should be brief and to the point, as follows:

Matthew McGuire

<i>Date</i>	<i>Entry</i>
9/27	Matthew requested permission to build a model of the solar system.
9/30	M. was involved in an argument with John at the end of the laboratory period. Cause of the argument not determined. M. said J. was picking on him.
10/5	Conference with M. concerning his project. So far he has done nothing constructive. He says he would like to do something else.
10/6	M. was elected class treasurer at the sophomore class meeting.
10/7	M. has decided to go ahead with his project after all. He has finished his plans with working drawings. They were quite acceptable.

Preparing anecdotal reports

Another common method of recording observations about individual pupils is the anecdotal report. This report should record significant or unusual behavior. It should describe for a given pupil briefly and matter-of-factly what happened, when, where, and under what conditions. If the teacher thinks it desirable, he may attempt to interpret the happening. However, he should be sure to distinguish the interpretation from the description of the incident. A form for an anecdotal report follows:

ANECDOTAL REPORT FORM

Name of Pupil:

Date:

Description of incident:

Interpretation:

Reported by:

Position:

Use of problem-situation tests

The teacher does not always have an opportunity to observe how his pupils act in certain situations. To fill this lack, the problem-situation test has been developed. In this test the examiner confronts the pupil with a problem situation. The test is to see what the pupil will do. In some cases the teacher can face the pupil with an actual situation, and observe what he does. For example, a common procedure in an auto-mechanics course is to give the pupil a motor which will not run and tell him to find out what the trouble is. Similarly, in a class in which one is attempting to teach pupils how to conduct a meeting according to Robert's Rules of Order, the teacher might set up a meeting and see how well various members preside.

To set up situations of this type may be quite difficult. However, teachers can create pencil and paper problem-situation tests which serve the same purpose. If a teacher wished to observe each member of the class demonstrating his skill in handling a meeting, too much time might be consumed. He therefore might devise a situation test consisting of questions like the following:

You are senior class president. You have just called to order a special meeting of the class to discuss the class trip, the senior ball, commencement activities, and the class gift. What should the order of business be for this meeting?

In the case of the broken engine, the teacher might devise a problem situation with questions like:

A farmer's tractor will not start. What steps would you take to find out what the matter is with the motor?

The items used in a problem-situation test may be either the essay or objective type. Usually, however, some type of free recall item is better than an item which suggests possible solutions to the problem.

Use of themes, notebooks, homework, and recitation

Of course, themes, homework, papers, and oral recitations are also evidence of pupil progress. They should be checked carefully. A good rule is never to assign anything that is not going to be checked by someone. Practice material, however, need not be checked by the

teacher. Sometimes pupils can check *their own and each other's* work quite effectively. In order to provide an objective basis for evaluating such work, one can utilize rating scales, checklists, and standards. Both the rating device and the exercise should be used mainly as aids to instruction. The emphasis should be on *diagnosis, practice, and learning* rather than on rating.

What devices other than tests does the teacher have available for estimating the progress of pupils? How can each be best used?

What would be the best way to test a pupil's honesty? His ability to swim? His appreciation of a poem? His freedom from prejudices? His understanding that "all men are created equal, with certain inalienable rights"? What do your answers imply as far as a testing program is concerned?

Of what uses can a behavior log be to a classroom teacher? To a guidance worker?

Self-evaluation of pupils' work

Too many teachers think of themselves as sitting in judgment on the work of the pupils. The purpose of evaluation is to determine *where we are and to decide where we should go. The person most concerned in any teaching-learning situation is the pupil.* If evaluation is to be fully effective, and the pupil is to set his goals correctly, the pupil should participate in evaluating his own progress.

Pupils can cooperate in evaluating their own progress in many ways. First, they may participate in formulating the goals for the unit. Second, they can cooperate by checking their own work. Third, they can inspect their own work to find their strengths and weaknesses. And fourth, they can often decide when they have reached the point where they should go on to something else.

For example, in a certain English class one of the major concerns was the *improvement of oral language skills.* Each pupil was given a small roll of recording tape to use during the semester. Every pupil learned how to run the tape recorder and could, if he so desired, use the tape during out-of-class hours. On the tape each pupil could record conversations, class discussions, oral reports, and practice material. The recordings were criticized both by the pupils and the teacher. Pupils noted their own errors and worked on them individually. They also practiced by themselves on material provided by the instructor until they thought they had improved enough to

record their voices again and to listen to the play-back. The other work of the class was largely individualized, so that pupils could use the tape recorder whenever they were ready. In this way the pupils were able to see their errors, and with the teacher's aid set up a program for improvement. Thus they were able to see their progress and to judge whether they had improved enough to go on to other work. The teacher felt that the class improved much more than if he had tried to teach these skills directly and had made the criticisms himself.

Another evaluation technique used in the same English class was to let the pupils criticize both their own themes and those of other pupils. The primary goal was clarity, so the teacher let the pupils read each other's themes and point out what was not clear in them. Then the teacher, or on occasion another pupil, told the writer where in the text or the supplementary readers he could find a discussion of the particular error. Sometimes the teacher gave the pupil self-correcting exercises to help remedy his fault. Ordinarily, the pupils worked on these exercises until they thought they had conquered the problem. Since the pupils knew these exercises were not to be counted into their marks, they felt no need to cheat. Again, the teacher felt that the pupils learned much more efficiently than they would have if he had corrected each paper himself and had doled out marks.

Aids to self-evaluation

Pupils can keep anecdotal reports and behavior logs to measure their own work. For instance, a pupil working on a project can keep a daily log or diary of his progress and a record of his successes and difficulties. In a unit a pupil might submit short reports on himself at the culmination of different aspects of the work, and estimate the worth of his product and the benefits he has gained from the activity. If marks are not overemphasized, pupils can evaluate much of their own work and keep many of the records.

The use of cameras and tape recorders may make it easier for pupils to judge their own progress. They also make it possible for teachers to analyze pupils' actions, to diagnose errors, and to measure progress. Teachers can also use these devices to show pupils how well they are getting on and what their faults and strengths are. Motion pictures are commonly used by coaches and physical education directors for these purposes. Similarly, tape recorders are often used

in speech classes and in the evaluation of discussions, panels, and other group activities.

The pupil may also participate in the evaluation of his own work through conferences with the teacher. In the conference the pupil has an opportunity to ask the teacher for help on difficult points, while the teacher has an opportunity to evaluate the pupil's work, to point out errors, to encourage him, and to diagnose his performance. The conference need not be formal. A few words at the teacher's desk or at the pupil's work station may serve just as well as a full-dress interview. In fact, the more informal the conference, the more valuable it is likely to be.

SUMMARY

If we are to keep from drifting aimlessly like so much flotsam and jetsam in the surf, we need to determine where we are and where we should go. This process is evaluation. It differs from measurement in that it involves judgment of worth, while measurement merely describes the pupil's status. Many devices can be used to measure the status of the learning of boys and girls. We should use more of these devices than we ordinarily do, but evaluations can be made only by the evaluator himself. Consequently, goals and standards must be established to give the evaluator touchstones against which to compare the value of what he is judging.

But the purpose of evaluation is not merely to determine a pupil's worth. Evaluation should be the basis for determining what comes next, or where to go from here. Evaluation is the soul of diagnosis, and diagnosis is the key to much of the treasure in modern teaching. Through evaluation we may be able to diagnose not only the status of the pupil's learning but also, if difficulty exists, specifically what it is and what causes it. It can be useful as a basis for remedial action, or as a basis for deciding whether retention or promotion will be better for a pupil. Without evaluation and diagnosis, teaching can be pretty haphazard.

FOR FURTHER READING

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CHAPTER II

Testing

Four criteria of a good test

When considering the worth of any measuring device, be it standard test, teacher made test, or rating scale four things need to be considered

- 1 How valid is it?
- 2 How reliable is it?
- 3 How objective is it?
- 4 How usable is it?

The most important of these criteria is validity i.e., the extent to which the device measures what it is supposed to measure. A measuring device which is not valid is worthless. Validity is dependent on several things. In the first place, the instrument must be suitable to the nature of what is to be measured. A paper and pencil test would hardly be a valid measure of a baseball player's ability to bat, for instance. Furthermore, the instrument must measure all the significant aspects of what is to be measured in an amount proportional to their importance. If, in testing batting ability, one tested the batter's stance, but not his ability to 'connect,' the test would give a false result because of poor sampling. Moreover, to be valid the test must also discriminate. In testing batting ability, of what use is a test which does not differentiate between the good batters and the poor batters?

A particularly important criterion for establishing the validity of an achievement test is curricular validity. Curricular validity indicates the extent to which a test measures what was taught in the

course. Without it, an achievement test cannot be valid. When items of achievement test are concerned with learning which was not part of the course, the test will give incorrect results because of its lack of curricular validity. Commercial achievement tests sometimes give an inaccurate picture of the achievement of pupils in a particular school, since the curriculum of the school may differ from that for which the commercial test was designed.

The second test of the worth of an evaluative device is reliability. A test is reliable if it can be trusted to give the same results when repeated or when different forms are used. In general, a long test is more likely to be reliable than a short test, and an objective test more reliable than an essay test. These are about the only criteria readily available for the average teacher-built test, although statistical methods are used to determine coefficients of reliability for standardized tests. Reliability, to a large extent, takes luck out of the picture. When a test is truly reliable, one can be quite sure that one has a good estimate of whatever is being measured. And if what it measures is what it is supposed to measure, the test is a good one, for a test should be both reliable and valid. However, if one or the other must be sacrificed, one should sacrifice reliability because validity is much more necessary than reliability in a test.

Another criterion of a good test is objectivity. By objectivity educators mean that the personality of the scorer does not affect the scoring of the test. Thus a truly objective test will be scored in exactly the same way by every scorer. For this reason objectivity in a test helps make the scoring fair and the test reliable. As long as validity is not sacrificed, the more objective the test the better. However, a valid test is often a good test even though it is not objective, while an objective test which is not valid is always worthless.

A fourth criterion of a good evaluative device is its usability. Obviously a two-hour test is not suitable for a forty-minute period. Everything else being equal, one should avoid tests that are hard to administer, difficult to score, and expensive.

Objective-type tests are not always objective. Why not? Why might a truly objective test in composition be a bad test?

What are the most important criteria for judging the worth of a test? Rate these criteria in order of importance. Why did you choose that order? When would you use an objective test? Apply these criteria to a test in one of your college courses.

BUILDING AN OBJECTIVE TEST

As in all other teaching, the first step in test construction is to plan. Every teacher should set up objectives for each lesson or unit he teaches. He should use these objectives for the basis of his test plan. To a large measure they should determine what kind of test to give and what items to include. Some learning products may be tested best by performance tests, some by essay tests, some by objective tests, and some by observation. The test builder attempts to pick the type of item which will best suit the objectives of a particular lesson. After consideration he may find it advisable to use several types of test items and devices. Whatever choice he makes usually depends upon the time and materials available as well as the objectives to be tested. In the following paragraphs we shall first discuss the building of an objective test and then the building of an essay test.

The objective-test item

Both essay-test items and objective-test items have their good and bad points. In several ways the objective-test item is the better of the two. With it one can provide a relatively adequate sampling quite easily. Furthermore, since objective-test items limit the pupil's choice, the answers do not wander from the point in the way essay answers sometimes do. Neither are they so likely to include irrelevant material or to be so affected by environmental conditions. For these reasons, objective tests are often more reliable than essay tests. In addition, the use of scoring keys makes the objective test easy to score. In fact, the scoring is often so easy that it may be farmed out to clerks or other nonprofessionals. Moreover, the use of keys and automatic scoring devices can make the objective test really objective. It is only when the scorer departs from the key that the test becomes subjective. Objective tests have the additional advantage of being less time-consuming than essay tests. As a matter of fact, objective tests can often do in a single period more than an essay test can do in a double period.

Why, then, should not all paper and pencil tests be of the objective type? Unfortunately, the tests have many serious faults. In the first place, good objective-test items are difficult to write. Even in carefully built tests some items are liable to be ambiguous or to

contain clues which may give away the answer. Secondly, to test high level learning with this type of test is difficult. Although objective-test items can test the ability to organize, the ability to use what has been learned, the ability to show relationships, and the ability to evaluate, such items are extremely difficult to build and frequently even more difficult to key. The objective-type test often tests only isolated facts with a resultant emphasis on verbalism rather than true understanding.

Designing the objective test

The first step in building an objective test is to design the test. This should be done with care, for the task is to build a test which will allow the pupils to show just how well they have progressed. The test-builder should avoid any extraneous influences which might affect the test score. In designing the test, he should bear the following rules of thumb in mind:

1. All teaching objectives should be tested in proportion to their importance.
2. The test should include items easy enough for the slowest pupils and items difficult enough to challenge the brightest ones.
3. To avoid confusion, only a few types of items should be used in the test.
4. All items of the same type should be placed together.
5. Items should be arranged from the easiest to the most difficult so as not to discourage the less bright at the beginning of the test.
6. Directions, format, and wording should be crystal clear. There is no room for trick questions or obscurity. A test is neither a joke nor a puzzle.

Of what value are the objectives of a lesson or unit when one is devising a test?

Why is it sometimes stated that there is no such thing as an objective test?

In constructing a teacher-built test, what procedure would you follow? Outline what you would do step by step.

Selection of the items

Once the teacher has developed his test plan, he is ready to select the test items. In order to ensure curricular validity, without which an achievement test is of little value, the teacher should see to it that each item selected is directed toward a specific teaching objec-

tive. Moreover, he must be careful to select items which point up the objectives in proportion to their importance. A test which emphasizes some goals at the expense of others is not valid.

If the teacher has taught the unit or lesson before, he should have a file of test items. Good test items are too difficult to build to be thrown away. Consequently, whenever a teacher gives a test he should save the good items and file them away for future use. Keeping such a file is easy, since all the teacher needs to do is to clip the good items from his test as he uses them, paste them to the card, and file them. A little painless filing may save much laborious item building. It goes without saying that the teacher will find it desirable to construct some new items for every test. Fortunately, the item builder has many types of items from which to choose.

Types of objective-test items

Probably the most familiar type of objective-test item is the *alternate-answer item*. *Alternate-answer items* are items in which the pupil has a choice between two possible responses, e.g., true-false or yes-no. Items of this sort have had great popularity, but they are looked on with disfavor by some authorities because they encourage guessing. Some examples are:

Circle the correct answer (or underline the correct answer):

- | | |
|------------------|--|
| True-False | 1. Milton was a sense realist. |
| Right-Wrong | 2. Reliability is the degree to which the test agrees with itself. |
| Yes-No | 3. Most early scientific discoveries were made by university professors. |
| Were-Were not | 4. Girls _____ allowed to attend school beyond elementary level in Colonial New England. |
| Forward-Rearward | 5. The clutch lever of the Bell and Howell projector must be in the _____ position before it will run. |

This type of item can be found in many forms. An interesting variation is the following in which one must identify synonymous words.

In the following, write S in the space provided if the words are essentially the same; write D if they are different:

- () 1. reliability-consistency
- () 2. scoring-grading
- () 3. measuring-evaluating
- () 4. norm-average.

A more familiar alternate-answer item is the true-false item. True-false items can be set up in many ways. The following examples, for instance, call for decision concerning whether an item is probably true or probably false.

In the proper space below, write plus (+) if true or probably true. Write minus (−) if false or probably false.

- () 1. Validity is the most important characteristic of a good examination.
- () 2. The split-half method is used in estimating the reliability of a test.
- () 3. Reliability is frequently expressed by the use of coefficient of correlation.

Other variations of the true-false item, as in the example below, call for a third alternative response.

Write plus (+) if true, minus (−) if false, 0 if only an opinion.

- () 1. Hartshorne and May found a positive correlation between honesty and intelligence.
- () 2. The intelligence test is the best contribution of psychology to education.
- () 3. The A.Q. is more reliable statistically than the I.Q.

Another variation calls for four alternatives. In this variation the pupil is supposed to indicate whether a statement is true, probably true, false, or probably false. Variations of this sort help to take guessing out of the true-false test. Another variation designed for the same purpose requires the pupil to correct false statements, for example:

Write plus (+) if true, minus (−) if false. If false, show why.

- 1. The superintendent of schools is usually head of the board of education.

Checklist items are much like alternate-answer items. Usually these items consist of fairly long lists from which the pupil checks the items which apply. In the following example the list might well consist of ten items.

Check the duties of the local board of education which appear in the following list:

- _____ 1. Hire teachers.
- _____ 2. Adopt school budget.
- _____ 3. Select superintendent.
- _____ 4. Etc.

Multiple-choice items

Multiple-choice items have the advantage of being relatively free from guessing if four or more alternative responses are used and if reasonable care is used in picking the incorrect responses. However, if these distractors (i.e., incorrect answers) do not seem reasonable, they can easily give the answer away. Two types of multiple-choice questions appear below.

Select the best answer and write its letter in the space in the margin:

- _____ 1. *The U. S. Commissioner of Education is:*
- a. selected by the people.
 - b. elected by the Senate.
 - c. appointed by the President with the approval of the Senate.
 - d. elected by the House of Representatives.
 - e. appointed by the Secretary of Health, Education, and Welfare.

Underline the right answer (or circle or cross out the right answer):

1. The first college in the colonies was:
- | | |
|--------------|----------|
| a. Harvard | d. Yale |
| b. Columbia | e. Brown |
| c. Princeton | |

These variations differ in form only. A variation of the multiple-choice item which differs in substance as well as forms is the category or identification item. Usually these are used with long lists.

Mark the items which result from action of the sympathetic nervous system, S; those which result from action of the parasympathetic nervous system, P; if neither of these systems controls an item, leave it blank.

- () 1. Increases heart beat.
- () 2. Dilates pupils of eyes.
- () 3. Increases sweating.
- () 4. Checks flow of saliva.
- () 5. Movement of forearm.
- () 6. Secretion of adrenalin.
- () 7. Etc.

Matching-test items

Another common type of objective test is the matching test. Again we find several variations of the basic form which consist of two unequal columns of items to be matched as in the following.

With one exception each of the phrases in column 2 has to do with one of the items in column 1. Place the letter preceding the phrase in the parentheses preceding the appropriate item in column 2.

I

- () 1. Carnegie unit.
- () 2. Course.
- () 3. Program of studies.
- () 4. Curriculum.
- () 5. Aptitude.
- () 6. Ability.
- () 7. Core activity.
- () 8. Aim.
- () 9. Transfer of training.
- () 10. Subjects.

II

- a. A life goal.
- b. The total offering.
- c. The relationship between present tendencies toward, and capacities for, behavior and the immediate goal toward which he is working.
- d. A developed capacity for behavior.
- e. The structural basis upon which the capacity of *d* above is developed.
- f. In the unit assignment something which everyone must do to some extent at some time.
- g. Using the experience of one situation or series of situations to meet other situations more successfully and efficiently.
- h. English I.
- i. A quarter of a full year's work.
- j. A subdivision of subject matter.

Another variation of the matching question is the following in which the pupil must find the words that would fill the blanks in a paragraph. Care in making these items is necessary or the answers may give themselves away, as in some instances in the example.

All words omitted from the following paragraph appear in the column at the left of the page. Indicate the word or phrase that best fits the blanks by placing the letter representing the blank in the appropriate parenthesis.

- () 1. Problem solving.
- () 2. Promote the general welfare.
- () 3. Strata.
- () 4. Memorization.
- () 5. Coeducational.
- () 6. Declaration of Independence.
- () 7. Cross sections.
- () 8. Bill of Rights.
- () 9. The needs of youth.

The goals for American democracy were set up by the founding fathers in (a). The goal which is all-inclusive and most important for modern educators is probably (b). To help achieve this goal, schools should represent (c) of society. Schools should be (d) and (e).

- () 10. Comprehensive.
 () 11. Preamble to the Constitution.
 () 12. To insure the blessings of liberty.
 () 13. College entrance requirements.

High-school teaching should be evaluated in terms of its success in meeting (f).

In a democracy, learning activities must be largely (g).

Organization and evaluation items

Skilfully made organization and evaluation items can test a high level of learning and the ability to use knowledge. Items which require the pupils to organize are especially useful in testing learning above the verbalization level. The following item in which the pupils are asked to place a list of events in chronological sequence requires more than mere verbalization on the part of the pupil.

Place the following in chronological order by numbering the first event 1, the second event 2, and so on.

- _____ The Declaration of Independence.
- _____ The Articles of Confederation.
- _____ The battle of Lexington.
- _____ Washington's assumption of command of the Continental Army.

Items which ask pupils to evaluate and rate practices can not only test knowledge, but can also test the ability to draw fine distinctions. Questions of this sort are excellent for getting at the higher mental processes.

Rate the following techniques according to the following scheme: E, excellent; D, doubtful; X, poor. Place your responses in the parentheses.

- () 1. In questioning, accepting any answer which can be used at all.
 () 2. Asking questions which can be answered by monosyllables.
 () 3. Encouraging pupils to ask questions of the teacher and of each other.
 () 4. Reviewing for purposes of examination.
 () 5. Etc.

Situation-test items

Situation items also demand that the pupils be able to use their knowledge. In this example the pupils must know how to do an item analysis in order to answer correctly.

What does the following item analysis tell you about the items in the text? Put your answer in the space below:

Students	Items						Total
	1	2	3	4	5	6	Score
John	+	0	0	+	0	+	111
Mary	+	+	0	+	0	+	109
Susan	+	+	0	+	0	0	100
Mike	+	+	0	+	0	+	96
Don	+	0	+	+	0	+	94
Harry	+	0	0	+	0	0	60
George	+	0	+	0	0	+	58
Anne	+	0	+	+	0	0	57
Tom	+	0	+	0	0	0	42
Sally	+	0	+	0	0	0	40

1. Item 1 _____
2. Item 2 _____
3. Item 3 _____
4. Item 4 _____
5. Item 5 _____
6. Item 6 _____

Free-response items

Free-response items which provide the pupils with no suggested responses also test a high level of learning. The most common representative of this type of item in objective tests is the completion item. In the completion item one merely places the correct answer in the blank.

Fill in the blanks.

1. The first permanent secondary school in this country was founded at _____
2. The Committee of Ten recommended that the elementary schools be limited to grades _____ through _____

To make scoring easier, teachers often require that the answers to the completion questions be placed in an answer column.

Place the answers which would fill in the blanks in the space provided in the margin.

- _____ 1. American high schools average about _____ pupils per school.
- _____ 2. I.Q. = _____ \times 100.

When using completion items, one should be wary of ambiguous questions and unexpected correct responses. Good completion items which call for more than isolated, pinpointed facts are difficult to build.

Short-answer questions are exactly what the name implies, questions which can be answered in a word or phrase, as in the following. They are extremely useful, but, as with completion questions, it is difficult to write the items so that they will rule out undesirable responses.

Place the answer to each of the following questions in the space provided.

- _____1. A boy is 10 years old; on a Stanford-Binet test his score is similar to that of the average 12-year-old. What is his I.Q.?
- _____2. Approximately what percentage of local school money is furnished by the federal government?
- _____3. What is considered to be the best size for a local school board according to Crow and Crow?

For what may the various types of tests be best used? Criticize the items used as illustrations. In what ways might they be improved?

What are the characteristics of a good objective-test item?

BUILDING AN ESSAY TEST

The essay-test item

The essay item has several distinct advantages over the objective-test item for testing certain types of learning. Being a pure recall type of item, it tests a higher level of knowledge than do many objective-test items. It can also test the ability to organize, to use materials, to show relationships, to apply knowledge, and to write—abilities that are not easily tested by objective-test items. Furthermore, pupils seem to put more effort into studying for essay tests.

On the other hand, the validity of an essay test is liable to be low. This lack of validity stems from the fact that in essay tests it is very difficult to get an adequate sample of the pupils' knowledge of what was to be learned. Irrelevancies are likely to enter into the essay item. The validity and reliability of the test are lowered by the tendency of some pupils to wander off the subject, to "throw the bull," and to speak in vague generalities. The validity of the essay

test is also lowered by the tendency of scorers to mistake skill in expression, style, glibness, handwriting, neatness, and other irrelevant qualities for knowledge of what was to be learned. Scoring essay items, when done properly, takes considerable time and hard work. This greatly reduces the test's usability.

Because the essay-test item is prone to these faults—low objectivity, low reliability, and low usability—the teacher should use such items with discrimination. As a rule, one can say that the essay test should be reserved for occasions in which the teacher wishes to test a high level of recall and in which he wishes to test the ability to organize material, to apply what has been learned, to evaluate, to show relationships, and to write well. In determining whether or not to use such items, the teacher should also consider whether or not essays instead of essay tests might not be a better measure. The pupil who has time to sit and develop his thoughts in a theme or essay may demonstrate his skills in these areas more accurately than in the rush of an examination.

Designing the essay test

Designing an essay test is much like designing an objective test. The object is to find out the pupil's progress. One selects items which will ascertain what that progress is. Because of the time factor, the problem of adequate sampling becomes extremely important. As a rule of thumb, one should use many short essay items rather than a few long ones.

Other rules of thumb in the construction of essay tests are:

1. Limit the questions to something the pupil can answer adequately in the allotted time and be sure each question is worded so that the pupil realizes these delimitations.
2. Be sure the sample is adequate and that the test will actually show how well the pupils have acquired the learning products which were the goals.
3. Be sure each question tests specific learning products and that the information necessary for the correct answer was included in the course.
4. Be specific. Be sure each question indicates just what the pupil is to write about. To do this, it may be necessary to write several sentences explaining the question. Avoid "discuss" questions. They are too vague and general.

5. Decide what the standards are for scoring the answers before you commit yourself to any question.
6. Be clear.

ADMINISTERING AND SCORING TEACHER-BUILT TESTS

Giving the test

At first glance it would seem as though there was nothing at all to giving a test. This is not the case, however. Both essay and objective tests must be administered carefully. Once the test and key have been prepared, the first thing to do is to check the test to be sure it contains no errors. Little slips in typing may cause items to turn out quite differently from what was intended. The teacher should also note any directions which may be unclear and any items which need to be explained. A good way to spot unclear items and directions is to ask another teacher to read the test critically.

If possible, any errors or obscurities should be corrected before one takes the test to class. Announcing and correcting errors in class take valuable time away from the test itself, and there is usually someone who misses the correction and is thus penalized. Since correcting the test before class is not always possible, the teacher may have to explain items and procedures to the class orally. If so, he should do so before the class begins. If in addition he writes the explanation or correction on the chalkboard, the pupils can refer to it as the test progresses and thus will not be penalized if they forget or miss the announcement. Interrupting the test to make announcements is a poor practice because it may break into a pupil's train of thought and upset him.

To avoid distracting the pupils once the test has started, the teacher should be sure that each pupil has everything he needs before the test begins. It is important that the pupils check to see that each one of them has a good copy of the complete test. Even the most carefully prepared test may have poorly mimeographed, blank, or missing pages, so the teacher should have extra copies of the test to substitute for defective ones, if necessary. If this checking is completed before the test starts, it will eliminate confusion and interruptions during the test itself. Confusion and delay may also be minimized by setting up a routine for distributing and collecting the tests.

Preparing the classroom for the test

The physical condition of the classroom makes a tremendous difference in the test situation. The comfortable pupil can do his best work, the uncomfortable pupil often cannot. For this reason the teacher should consider the light, heat, and temperature in the room. If possible, he should prevent any noises, interruptions, or other distractions. Common practice when giving standardized tests is to post a notice, "TESTING: PLEASE DO NOT DISTURB." There is no reason why such a practice should not be used for ordinary teacher-built achievement tests also. Many teachers are guilty of carrying on conversations with pupils or other teachers during a test. Some leave the classroom doors open while other classes are moving in the corridors. Such disturbances are liable to distract the pupils and reduce the reliability of the test.

Scoring the essay test

After the test has been given, it must be scored. Ordinarily, the test should be scored immediately. Otherwise the teacher loses the opportunity to capitalize on the test's motivational and diagnostic aspects. Essay tests are notoriously hard to score. To score them objectively is almost impossible. However, the teacher must try to score them as objectively as he can. This is no easy task, but the following procedure can somewhat reduce the difficulty:

Before giving the test, answer each question yourself. (Sometimes you will not want to use the item after you try to answer it.) Note all the acceptable points and the relative importance of each. If you wish, give each point a numerical value or weight. This is the key.

Next, after the test has been given, read the first essay question in each of the papers and assign scores on the basis of the key. If a pupil has mentioned an acceptable point not in the key, add the point to the key and reread the papers already scored to be sure that every one gets credit for the point.

After completing the first question in all of the papers, repeat the process with question 2. It is much easier to read one question in all of the papers at once because the scorer can concentrate on that one question.

Scoring the objective test

The objective test is considerably easier to score than the essay test. The questions lend themselves to easy automatic scoring. In fact, scoring such questions is often so automatic that they can be scored more profitably by a clerk or pupil than by the teacher.

As in the essay test, the key should be made out before the test is given. A good method is to indicate the acceptable answers as the test is being made out. Then the teacher should let the test sit for a day or so, after which he should retest himself to see whether he still believes that the answers are acceptable. If they are, the teacher is ready to make his key. One of the easiest methods of making a key, if the test is arranged so that the responses are in a column, is simply to take an extra copy of the test and fill in all the responses correctly. The key can be placed against the test and the answers compared. Often, the teacher will find it easier to cut off the text of the test so that his key will be a strip which can be laid along either side of the answers on the test being corrected. This makes it easier to correct answers listed on the left side of the page if the scorer is right-handed. Some teachers find it easier to score by simply checking all correct items, i.e., items which agree with the key. Others prefer to mark the wrong answers.

Example:

		key	
—	a		(a) John Smith was an: (a) explorer, (b) merchant, (c) captain, (d) general.
×	c		(a) Pocahontas married: (a) John Smith, (b) Myles Standish, (c) John Rolfe, (d) John Winthrop.

Of course, if one intends to correct for guessing, one must also indicate both right and wrong items.

Another common type of key is the mask. Masks are stiff pieces of paper or cardboard which, when placed over the test, cover up all the incorrect responses and allow only the correct responses to appear. They can be made easily. All one needs to do is to cover the test with the paper and then make holes in the mask where the correct answer should appear. With this type of key all the scorer needs to do is to mark correct all answers that show through the mask.

Example:

TEST

1. a b c d John Smith was an (a) explorer, (b) merchant, (c) captain, (d) general.
2. a b c d Pocahontas married (a) John Smith, (b) Myles Standish, (c) John Rolfe, (d) John Winthrop.

MASK

1. O
2. O

Correcting for guessing

Since in testing one is attempting to determine progress toward the desired learning products, one should not conduct a guessing contest. When items have fewer than four responses, pupils can guess the answers relatively easily. Consequently, some teachers correct for guessing when scoring items with fewer than four responses. This is easily done. The formula amounts to:

$$S = R - \frac{W}{(C - 1)}$$

S is the corrected score, R is the number of correct responses, W the number of incorrect responses, and C the number of choices provided for each item. Substituting in the formula we find that for alternate-answer items the formula becomes Rights minus Wrongs.

$$S = R - \frac{W}{(2-1)} \quad \text{or} \quad S = R - W$$

For items having three choices we find that the formula becomes Rights minus $\frac{1}{2}$ Wrongs.

$$S = R - \frac{W}{(3-1)} \quad \text{or} \quad S = R - \frac{W}{2}$$

These are the only two instances in which use of the formula is necessary.

Many teachers and writers in the field of measurement prefer not to use the correction formula at all. They feel that the correction is *not worth the trouble because it seldom changes the relative rating of the pupils*. Besides, pupils do not understand it very well and do not like it. Perhaps the best answer to the problem is to use items with at least four choices as much as possible. If it is necessary or advisable to use alternate-answer questions, the teacher should probably make the test long enough to accommodate several items directed at each learning product. This will tend to compensate for guessing without using the formula.

Evaluating teacher-built tests

Much of the evaluation of a test can be done before it is given. The most important criterion of a test's worth is its validity. Does it test what it was supposed to test? Perhaps the easiest and best way to check the validity of a teacher-built achievement test is by inspection. Do the items test the goals of the course? Does the test cover the various goals in proper proportion? Is it free from catch questions and ambiguous items? Is the physical format correct? Are questions of the same type grouped together? Are the test items arranged from "easy" to "difficult"? Is the test free from format blunders such as matching items which go over the page? In other words, is it valid, reliable, objective, and usable?

After the test has been given, it can be evaluated more fully. Things which can be checked are:

1. Length.
2. Directions.
3. Item discrimination.
4. Difficulty of items.
5. Clearness.
6. Balance.

Running an item analysis

An item analysis can be very helpful in evaluating a test. The procedure for such an analysis is quite simple. On a sheet of graph paper list the pupils' names on the stub at the left, and items of the test in the heading. We are interested only in the upper and lower quarters, but it is best to list all the pupils in rank order because the chart can also be used for diagnosis. By using plus (+) and minus (-)

signs, indicate whether each of the pupils answered each of the items correctly or incorrectly, as in the chart below:

<i>Upper quarter</i>	1	2	3	4	5	6	7	etc.
Jerry	+	+	+	-	-	+	-	
John	+	+	+	+	-	+	-	
Sally	-	-	+	+	-	+	-	
<i>Lower quarter</i>								
Mike	+	-	-	-	-	+	-	
Susy	+	-	+	-	-	-	+	
Tom	-	-	-	+	-	-	+	
George	+	-	-	+	-	-	+	

By studying this chart one can learn how well the items discriminated and how difficult they were. The chart also gives clues to items that are not well written, are ambiguous, or which were not learned.

Any good test should have some items that very few people can answer and some which almost everyone can answer. The first are needed to find out who the high achievers are; the second, to encourage the low achievers. Ordinarily, most items should be answered correctly by about half of the pupils. An item which is answered correctly by fewer than 20 per cent of the pupils may well be a bad item. One should examine it to see if perchance it is not too difficult, whether it tests any of the objectives, whether it was pertinent to the course, or whether it is poorly written. On the other hand, if the item is answered correctly by more than 80 per cent of the pupils, one should check to see if it is too easy or whether the wording gives the answer away.

By comparing the answers of the upper-quarter pupils with those of the lower-quarter pupils, one can find other things which help to evaluate the items. If the upper quarter of the pupils answered an item correctly and the lower quarter of the pupils answered it incorrectly, the item discriminates between them. If both upper-quarter and lower-quarter pupils answered the question equally well, it does not discriminate. If an item is answered correctly more frequently by the lower-quarter pupils than the upper-quarter pupils, something is very wrong indeed. Perhaps the key is wrong, or perhaps the item needs to be rewritten.

Often you hear it said that an achievement test on which pupils make perfect scores is a poor test. Discuss the merits and faults of such tests.

Compare this item-analysis chart with that used in the section on diagnosis. How could you combine both of these into one procedure? What, if anything, would this sample portion of the item analysis show about the items?

STANDARDIZED TESTS

Although the teacher-built test will always remain the mainstay in the teacher's tool kit, standardized tests are important supplementary measuring devices. In general, there are three basic types: achievement tests, character and personality tests, and aptitude and intelligence tests. They differ from teacher-built tests in that they are carefully built to provide a common unit of measurement just as the yardstick provides a common measure for length. To this end, the procedures for administering, scoring, and interpreting the tests have been standardized so that the results may be compared all over the country.

Standardized achievement tests

The standardized achievement test is a most useful tool. It comes in two basic types: (1) that which shows strengths and weaknesses of pupils as a basis for diagnosis and (2) that which shows the status of individual pupils as compared with boys and girls throughout the nation. Standardized tests are useful for these purposes, but they are not valuable for determining achievement in any particular course, or for evaluating the effectiveness of any particular teacher's teaching. In the first place, they rarely measure exactly what was taught in the course. Secondly, since standardized tests are liable to emphasize facts rather than understandings, abilities, attitudes, and skills, they frequently fail to indicate achievement in the most important aspects of the pupils' learning. Moreover, if a course or course sequence differs markedly in content from the courses in the schools which were used for standardizing the test, the latter will not measure the true achievement of the pupils nor report accurately how their achievement compares with other pupils.

what extent such teaching goals as attitudes, ideals, and other personality and character traits have been achieved. They are essential, of course, as a source of information in the guidance program.

Aptitude and intelligence tests

Aptitude tests are another source of information for the teacher. They attempt to show what a person's aptitudes or innate abilities are. Among the aptitude tests available are intelligence tests which seek to show one's aptitude for intellectual work, and tests which are designed to show one's aptitude for music, art, and various types of tasks. Probably the best known type of aptitude test is the intelligence test. Tests of true intelligence are extremely difficult to construct. It is doubtful whether any intelligence test really measures intelligence. However, the scores from such tests are extremely helpful in understanding the individual, and should be used—but with caution. Similarly, tests for other aptitudes, such as musical, artistic, and vocational aptitudes, give important contributions to the teacher's knowledge of the pupil and are a great aid in guidance.

Selecting a standardized test

Standardized tests should be selected with care. There are many of them. Some are excellent, others are far from satisfactory. In searching for a suitable test, the teacher can receive considerable help from such sources as curriculum laboratories and test files maintained by local and state departments of education and by colleges and universities. Textbooks on tests and measurements often list and criticize several tests both in the text and appendices. Catalogs of the various test publishing houses tell what they have to offer. Critical analyses may be found in the *Mental Measurement Yearbooks* compiled under the editorship of O. K. Buros, probably the most dependable sources of information concerning standardized tests. In these books the various tests are discussed without fear or favor by competent analysts. New tests frequently are listed in such journals as the *Education Index*, *Psychological Abstracts*, *Review of Educational Research*, and *Educational and Psychological Measurement*. Textbooks in specific methods courses often discuss standardized achievement tests in the field with which they are concerned. Another source is the various bibliographies of tests.

Usually these references will provide considerable information

about the tests' validity, reliability, and usability. By using these references it should be relatively easy to eliminate the instruments that are patently not appropriate for one's purpose and thus narrow down the number which one should examine most carefully in making the final selection.

In the final selection the test buyer should carefully consult sample copies of the test and its manual. (The test which lacks a manual should be viewed with particular caution.) The first thing one should check for is the validity of the test. Is it designed to do what you wish it to do? If it is an achievement test, does it fit in with the philosophy and objectives of the school and courses concerned? How was the validity established? From what type of population were the norms derived? If the population was greatly different from the type of class you have, the test will not be valid for your group. How were the items selected? Does a careful, logical, and psychological analysis of the test and its manual indicate that the items measure what they purport to measure?

If the test is valid, then one may go on to check the test's reliability and usability. In so doing, the teacher should bear in mind that a test bearing a reliability coefficient of less than .70 is probably a bad risk, and that ease in administering, scoring, and interpreting can lighten what is at best a difficult job.

Administering a standardized test

Any standardized test worth its salt will give clear, detailed directions for the administering of the test. Teachers should follow these directions exactly. Failure to do so may give false scores. As much as possible, standardized tests should be treated as routine classroom activities. A great to-do about the giving of a standardized test may cause tensions and upset the purpose of the test. Particularly reprehensible is coaching pupils for the test. A standardized test is a sampling. If boys and girls are coached on the sample the test will be much in error and it will be impossible to find out what the test might have told you. The only sure way to give a test a chance to do what you wish it to do is to administer it exactly as the manual prescribes.

If you were to select a standardized test to measure the achievement of pupils in one of your classes, how would you go about it?

How would you find out whether a standardized achievement test was valid in your situation?

In what ways might poor administering of a standardized test upset the test results?

Interpreting standardized test scores

The value of a standardized test comes in the interpretation of the scores. Consequently, a standardized test should provide one with norms which permit the comparison of this group with other groups. Norms should not be confused with standards. A standard is a level of achievement or ability required for some purpose. A norm is quite a different thing. It is an average. Usually we deal with grade norms or age norms. A ninth-grade norm, for instance, is simply the average or mean score of the ninth-graders. It is a theoretical point at which the average of the scores of all the ninth-graders falls. Similarly, an age norm is the average of the scores of all the pupils of that age. This means that in an average group at any particular level, half of the pupils should be higher, and half of the pupils lower, than the norm. Thus any boy who is reading at the tenth-grade level is reading as well as the average tenth-grader. Without further information one cannot tell whether this is good or bad.

Norms are really derived scores provided by the test makers to aid the user in the interpretation of the test. Grade norms and age norms, however, are not the only types of derived scores which may be used. One of the most familiar types is the ratio intelligence quotient. This score represents the ratio between the mental age of a child and his chronological age, i.e., $IQ = MA/CA \times 100$. It is, in effect, a refinement of the age norm. In interpreting the intelligence quotient, 100 is average, and the range from 90 to 110 is considered to be normal. Persons whose I.Q.'s range from 80 to 90 may be considered slow, while persons having scores from 110 to 120 may be considered bright. Persons below or above these points may be considered quite slow or quite bright, as the case may be.

In interpreting I.Q.'s, one must be cautious. Different tests of intelligence do not yield the same scores. Also, scores from the same tests vary considerably. I.Q.'s may be accepted as general indices of brightness, but they cannot be accepted at their face value. A good rule might be to assume that the chances are good that the actual index of brightness would fall within a range of 5 points above or

below the I.Q. derived from the test. To judge how bright a particular youngster is requires the use of other criteria in addition to the intelligence quotient.

Another type of derived score is the centile or percentile norm. The percentile score indicates the percentage of the sample population who reached that score. For example, if a youngster receives a percentile score of 10, ten per cent of the group did less well than, or as well as, he, and 90 per cent did better. The fiftieth percentile, of course, is average.

Other derived scores are the sigma score and the T score, which are based upon the normal curve of probability and the standard deviation from the mean. A sigma score is often called a Z score. It tells the number of standard deviations a person's score is above or below the mean. For instance, a score of $+0.5$ sigma means that the person's score was one-half of a standard deviation above the mean of the scores of all persons taking the test. In order to eliminate fractions and plus and minus signs, McCall has invented the T scale in which the mean is represented by 50 and each standard deviation is given the value of 10. In this scale $+0.5$ would become 55. The sigma or Z score itself has been varied to eliminate the signs by taking 5 or 10 as the mean and expressing the deviation from the mean as a multiple of the standard deviation. Thus our score of $+0.5$ may become 5.5 or 55, or 110, depending upon the values used. The chart below is an attempt to compare these scales.

COMPARISON OF VARIOUS DERIVED SCORES							
Standard deviations	-3	-2	-1	0	+1	+2	+3
Z scores	-3.0	-2.0	-1.0	0	+1.0	+2.0	+3.0
Converted Z scores	70	80	90	100	110	120	130
T scores	20	30	40	50	60	70	80
Percentiles	0.1	2.3	15.9	50	86.1	97.7	99.9

From this table we see that a T score of 70 can be interpreted to mean that the pupil is rated at two standard deviations above the mean or within the top 3 per cent of those taking the test. Presumably this is a good score, but one cannot really tell until he knows more about the pupil and the test situation. To make decisions on the basis of test scores alone can be very dangerous.

Using test norms

Norms are useful in that they give one a basis for comparing pupils from different school systems. They are valuable in evaluating school programs, and they can also tell the approximate standing of pupils with respect to their peers. Thus they can be extremely useful in developing individual programs for pupils and in providing for individual differences. For instance, if a teacher finds that an eighth-grader seems to have ability at the tenth-grade level, he should investigate the feasibility of giving him work which would be challenging at that level.

In a certain seventh grade a test indicated that 25 per cent of the pupils were reading below the seventh-grade level. The teacher claimed that there was no cause to worry. Would you agree? Why, or why not? Do you need more information on which to decide?

The parents of a brilliant boy have just been informed that their youngster has achieved his grade norm in all areas and is slightly above norm in one area. They are well pleased. Should they be?

Some schools segregate boys and girls into homogeneous groups on the basis of an I.Q. score alone. After reading this short discussion do you think this practice is proper? Why, or why not?

SUMMARY

Tests stand or fall on the basis of their validity. If a test is reliable, objective, and usable, so much the better. But a test which is not valid is worthless. The key to test building is to choose items which will ascertain whether or not the pupils have attained the teaching objectives. Consequently, the test builder should aim his items at specific goals. The same criteria that hold for teacher-built tests also hold for standardized tests. Although statistical procedures and other esoteric techniques are useful for the professional tester, the basic ingredients necessary for the classroom user and builder of tests are good judgment and careful thought.

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CHAPTER 12

Marking and reporting to parents

Marks hold an extremely high position in our school system. They are used as a basis for reporting pupil progress to parents and to other interested persons, and as a basis for promotion, graduation, and honors. Teachers frequently use marks as a means of motivating pupils to greater effort. Guidance personnel use marks in guiding boys and girls for college entrance or employment.

To perform these tasks, most school systems use a marking system based on a five-point scale. The most common version is the A B C D F scale. Variations of this scale use the numbers 1 2 3 4 5 or the terms "Superior," "Above Average," "Average," "Below Average," and "Unsatisfactory." Some schools use a scale based on 100 per cent, while others merely indicate the work to be passing or failing, or in some cases outstanding, passing, or failing.

Criticism of marking systems

Unfortunately none of the variations mentioned has been quite satisfactory primarily because marks and marking systems are based on certain fallacious assumptions. According to Wrinkle¹ these fallacies are six in number:

¹ William L. Wrinkle, *Improving Marking and Reporting Practices*, Rinehart and Company, Inc., New York, copyright 1947, permission of Rinehart and Company, Inc.

1. The belief that anyone can tell from the mark assigned what the student's level of achievement is or what progress he has made.
2. The belief that any student can achieve any mark he wishes—if he is willing to make the effort.
3. The belief that the student's success in his after-school life compares favorably with his success in school.
4. The belief that the student's mark is comparable to the worker's pay check.
5. The belief that the *competitive marking system provides a worthwhile and justifiable introduction to competitive adult life.*
6. The belief that school marks can be used as a means to an end without their becoming thought of by students as ends in themselves.

The truth of the matter is that these beliefs have little or no basis in fact. The errors contained in some of them are quite plain. Obviously the ordinary school marking system does not allow adequately for individual differences in pupils. That school marks and worldly success do not always correlate well is a commonplace. That learning rather than marks should be the object of education is self-evident. However, the average student may find it difficult to realize that marks do not tell what a student's level of achievement is or what progress he has made.

Marks as an indication of pupil progress

Marks do not tell one as much about a pupil's progress as one might suppose. For example, if someone says that Johnny received an A in ninth-grade social studies, what does that tell you? Does it mean he worked hard or that he is a bright loafer? Does it mean that he has mastered some particular bit of subject matter, or does it mean he has a charming personality?

Letter and percentage marks do not give the answers to such questions. They do not show what skills, concepts, attitudes, appreciations, or ideals the pupil has learned. They give no indication of the pupil's strengths or weaknesses in a subject, nor do they tell one how much he has progressed. In fact, as often as not, they hide information. For instance, because of his excellence in literature, reading, grammar, or written composition, Jack receives an A in English. However, he may be quite poor in conversational skill. The mark of A, therefore, hides the fact that he is deficient in one area of English. Such a marking system is of little value to anyone who really

wants to know much about the pupil's progress in school. Still, it does predict fairly well a pupil's continued success in a subject and does give a rough index of his teacher's estimate of his worth.

Even as an indication of the teacher's estimate of a pupil's worth, marks are not always very valuable. Teachers' marks are often influenced by extraneous matters such as sex, effort, extracurricular activities, neatness, school behavior, attitudes, and attendance. A common joke upheld by research studies tells us that in colleges male teachers tend to mark young women higher than women teachers do. Obviously, such inconsistencies may result in many inequities.

Particularly futile are marking systems which attempt to give precise marks. No human being can make the fine distinctions in the school work of pupils that the percentage system requires. Neither have we been able to develop testing instruments capable of such fine distinctions. Since the data on which pupil marks are based are so rough, the computing of percentage marks hardly seems worth the trouble.

Marks as a mental-health hazard

A frequent criticism of marks is that they are a mental-health hazard. Some critics feel that marks place an undue emphasis on competition and success. This emphasis, they believe, endangers pupils' mental health. Others feel that these pressures represent nothing more than the ordinary give and take in life, so that these objections should not be taken seriously. However, it is certainly true that marks often cause anxieties and worries out of proportion to their importance in pupils' lives. It seems, therefore, that the advisability of using marks is at least questionable from a mental-health standpoint.

Marks as a motivational device

Probably the only valid argument for using letter or percentage marks is that they have a certain motivational effect, particularly with the better pupils. Even this effect, however, may be illusory. If marks really motivated effectively, would not fewer pupils fail?

As a matter of fact, sometimes marks have a very poor motivational effect. This is true when the mark rather than the learning becomes the major goal. In such circumstances the pupils concentrate on getting marks rather than on learning something worthwhile.

The result often is cheating, cramming, electing easy courses, and expending only enough energy to pass.

Of what value are marks? Do they serve the purposes to which they pretend? If they do, how do they do it?

What do you think of competitive marking? What value does it have? What weaknesses?

For what purposes should marks be used?

MARKING TESTS AND PAPERS

"Marking on a curve"

At best, assigning marks is a thankless task. In the following paragraphs several ways to do this job will be suggested. However, the teacher must remember that no procedure can relieve him of the responsibility for making decisions, some of which will be difficult.

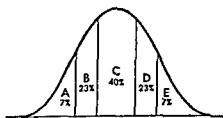


Figure 6. The Normal Curve of Probability.

According to the theory of the normal curve, which is based on the laws of chance, any continuous variable will be distributed according to a perfectly smooth bell-shaped curve, if no factors are present to throw things off balance. Thus, according to the laws of chance, in a large group marks should tend to fall according to the normal curve. In other words, letter marks would, according to this theory, be distributed about as follows: A, 7 per cent; B, 23 per cent; C, 40 per cent; D, 23 per cent; E (or F), 7 per cent. Just what the exact percentages should be is debatable.

Marks based on this theory have had considerable vogue. Unfortunately, in ordinary practice the theory does not apply to secondary-school marks.

The theory of the normal curve assumes that the variable varies according to pure chance. Ordinarily, this is not true in secondary-school classes. For one thing, a secondary-school class is not a normal,

but a select, group of people. Many of the slow-learning pupils have been dropped. Therefore, because of the selection that has taken place, the marks of secondary-school pupils will not ordinarily correspond to a normal curve, but will fall instead in approximately the following proportions: A, 15 per cent; B, 25 per cent; C, 40 per cent; D, 15 per cent; E (or F), 5 per cent.

Secondly, few classes are large enough to warrant using the normal curve. In order for the theory of the normal curve to operate, one needs at least fifty pupils to be marked against the same criteria. To use the normal curve as a basis for marks in a group smaller than fifty may lead to errors in marking. Therefore, when marking, the teacher must depend largely upon his own judgment. Statistical procedures such as using the normal curve are seldom worthwhile.

Using relative-growth groups

In spite of its faults, the normal curve can be used to indicate the relative growth of pupils with respect to each other. One can do this by setting up a five-point, relative-growth scale. In such a scale the percentage of members in each of the relative-growth groups will be distributed in the same proportion as when marking by the normal curve, i.e., I = 7 per cent; II = 23 per cent; III = 40 per cent; IV = 23 per cent; V = 7 per cent. These groups do not represent marks, however, but comparisons within the class. They merely show each pupil's progress in relation to that of his classmates.

The following method of determining relative growth within class groups has been used with some success: ²

1. Subtract the lowest score from the highest and add 1 to find the range.
2. Determine the approximate standard deviation by dividing the range by 5. This is the range of the group.
3. Find the mid-score.
4. Add $\frac{1}{2}$ the approximate standard deviation to the mid-score and subtract $\frac{1}{2}$ approximate standard deviation from the mid-score to find the boundaries of the middle group.
5. Find the other group boundaries by adding (or subtracting) the standard deviation from the group limit already established.

² See Roy O. Billett, *Fundamentals of Secondary School Teaching*, Houghton Mifflin Company, Boston, 1940, p. 634, for a fuller explanation.

For example: We have a test whose scores range from 63 through 117. The mid-score of the test is 89. Seventy-three pupils took the test. The range of the test is 117 minus 63 plus 1, or 55. The approximate standard deviation is 55 divided by 5, or 11. The middle relative-growth group falls between 94 — 84; the next higher relative-growth group ranges from 95 — 105; the highest ranges from 106 up. The other two groups become 83 — 73 and 72 — 62. However, if the scores fall so that there are natural breaks at places near the end of the groups, one might use these natural breaks for group limits instead of the limits computed.

Although the relative-growth groups can be quite useful, pupils have become so mark-oriented that they do not always willingly accept this practice.

Using raw scores instead of marks

Another effective device is to give the results of objective tests in raw scores, telling the pupils the range of the scores and the range of the relative-growth groups. By comparing their scores, high-school pupils soon realize how they stand in comparison with their classmates. If the scores are accompanied by comments such as, "I think you have missed the point of . . . , and should reread it," or "This paper is a little disappointing," or "An excellent job," or "You can do better," and so on, the pupil can learn how he stands in relation to his own potential and the standards of the course. Conferences also help make these points clear.

Assigning marks to tests

Both this plan and the relative-growth plan avoid giving actual marks to tests. However, if one must give marks, the only satisfactory solution is to establish certain criteria for each mark and then mark on the basis of those criteria. In marking tests, one should remember that the purposes of tests are primarily to evaluate pupil progress and to diagnose pupil learning rather than the giving of marks.

How does one grade a test if his school uses the five-letter system of marking?

Why do authorities generally condemn the percentage system of grading tests?

What are sigma scores, T scores, and Z scores? What are their good and bad points? How might they be used in marking tests?

Assigning marks to compositions and other creative work

Compositions and other creative work are difficult to mark. Perhaps the following technique used by a veteran teacher of English is as good as any in marking original written work:

First, he selects a comfortable chair with plenty of floor space around him. Then he reads each paper carefully, making notes as he reads them. On the basis of this reading he judges whether the paper is "Superior," "Excellent," "Average," "Fair," or "Poor." Then, without placing any mark on the paper, he places it on a portion of the floor designated for papers of that category. After reading all the papers, he places them into piles according to their categories and lets them lie fallow for a while. Later, refreshed, he rereads each paper in each group to test his previous judgment, and moves from pile to pile those papers which he feels he has rated too high or too low. He then assigns marks to the papers in the piles. Although this technique is not foolproof, with a little ingenuity it can be adapted for marking various types of original work.

Other devices particularly useful in the marking of compositions and themes are rating scales and checklists. The use of these devices was discussed in an earlier chapter.

TERM AND COURSE MARKS

The basis of term marks

Term marks should be based on achievement. No other basis for granting marks is valid. The amount of energy the pupil expended, his attendance, and his classroom behavior should not be included in his mark. That such things should be noted and reported to school officials, guidance persons, new teachers, and parents is *axiomatic*, but they should be reported as separate entities, not as part of a mark. A mark should be an index of achievement in a course, nothing more, nothing less.

Some teachers and theoreticians have proposed the theory that a person should be marked on the amount of progress he has made during a year. On the face of it, progress is an admirable criterion for marking. However, if the mark is also to be an index of the pupil's level of achievement, then a mark based solely on the amount of progress made during the period is misleading.

For example, here is the case of two boys. When they arrived at

the first class of their drawing course, John already had great—almost professional—skill in drawing, while Jim had no skill whatsoever. After a year in class, John has progressed very little, although he can still draw much better than anyone else in the class. Jim, however, has become interested in drawing and has made swift progress. He is now slightly better than the average pupil in the class, although still not nearly as good as John. How should one mark the two boys? If one bases the marks on progress, then Jim should get the higher mark, but this would lead to the ridiculous situation of giving the higher mark to the less skilled student. To be fair and to give a reasonably accurate picture in one's mark the criterion must be achievement rather than progress.

Criteria for term marks

In marking boys and girls, the teacher should know exactly what each mark means. Many of the better schools provide careful descriptions and definitions of the various marks or grades. The following is copied from the *Junior High School Quarterly Report* used in the Seattle Public Schools.* As you read the criteria try to evaluate them. Are they valid? Are any extraneous criteria included? Are any necessary criteria omitted?

DESCRIPTION OF MARKS USED IN JUNIOR HIGH SCHOOL QUARTERLY REPORT

A. Superior:

Pupil is careful, thorough, and prompt in the preparation of all required work.

Is quick and resourceful in utilizing suggestions for supplementary activities.

Works independently and has sufficient interest and initiative to undertake original projects beyond the assigned work.

Uses time well.

Does not guess.

Is careful to express thoughts clearly and accurately.

Shows leadership in classroom activities.

Has excellent self-control and effective study habits.

B. Above Average:

Pupil prepares all assignments carefully.

Is conscientious and dependable.

*Seattle Public Schools, *Junior High School Quarterly Report*. Description of marks used by permission.

Requires no urging to have work done on time.

Responds readily when called upon.

Makes a practice of doing all work assigned and makes some suggestions for supplementary work.

Has good study habits of routine assignments.

Is loyal, dependable, and helpful in class activities.

C. Average:

Pupil does good work, but requires considerable direction and stimulation from the teacher.

Is usually dependable and cooperative.

Has good intentions, though interest is not always keen.

Does not show a great deal of concern in following his subject beyond minimum requirements.

Responds to encouragement and guidance, though sometimes inclined to be careless or slow in accomplishment.

Needs to be prompted by frequent questions in reports or discussions before the class.

Should develop more independent habits of study.

D. Passing:

Pupil indicates that more growth will result from advancement than from repetition of the subject.

Should improve concentration in study.

Should make more careful preparation and respond more frequently.

Requires special help and encouragement constantly.

Is irregular in his attention and application.

E. Unsatisfactory:

Pupil has study habits that are poor and ineffective.

May lack adaptability for specific study.

Either will not, or cannot hold his attention to his work.

Fails to work reasonably near the level of his ability and does not meet class requirements.

As one can readily see such definitions and explanations help teachers mark more fairly. If definitions are not provided for the school, individual teachers should provide them for their own classes. As a matter of fact, even when school-wide criteria are provided, teachers should supplement the established criteria with additional ones designed to meet the need of individual classes.

Determining term marks

Probably the best way to determine term marks for a course is to give the pupils marks for each unit. The final term mark can be

computed by taking an average of the unit marks, making due allowance for those units which may be more important than others. Unit marks can be arrived at quite easily. Since marks should be based on as much evidence as possible, throughout the unit the teacher should rate all the test results, oral reports, written work, observation, and other pupil activities on a five-point scale as described in preceding sections. Then the teacher can determine the unit mark by inspecting all the evidence recorded for each pupil and weighing each according to its importance. No attempt to derive an average arithmetically need be made. Obviously, the resultant mark will be based on largely subjective considerations, but then, marks are always subjective, no matter how one marks. A mark arrived at by this procedure is probably as fair as a mark arrived at by any other.

Some schools require that marks be recorded and reported as percentages. This presents a problem to the conscientious teacher because percentage scores often require judgments finer than the human mind can make. However, such scores may be approximated by assigning values to the unit marks. For instance, if the passing grade is 70 per cent, then the teacher can assign the following values: A, 95 per cent; B, 87 per cent; C, 80 per cent; D, 73 per cent; F, 65 per cent, or less if you wish.

To attempt to give finer evaluations for the various units would be merely deceiving oneself and one's clientele.

Suppose you are an eleventh-grade English teacher. What should you wish to know about a pupil coming to you from the tenth grade? Would the fact that he got a B help you? If not, what information would be more helpful?

Is it possible to devise a means whereby all teachers' marks will mean the same thing? If not, why not? If so, what do you advise?

REPORTING TO PARENTS

The right to know

Every parent has the right to know how his children are progressing in school. In fact, he probably is obligated to know whether he wants to or not. Following is a list of what a parent should know about the progress of his child in school:

1. How well is the pupil progressing in each of his subjects?

2. How does his progress compare with that of the other boys and girls in his age group and in his class?

3. What are his potentialities? Is he developing any particular talents or interests?

4. How does his progress compare with his potentialities?

5. What specific difficulties does he have, if any?

6. In what has he done well?

7. How does he behave in school?

8. How does he get along with his peers? With his teachers?

9. Is there any way the parent can help him?

10. Is there any way the parent can help his teachers?

Such information should be passed on to the parent at regular intervals in some fashion or other. This is called reporting to parents. It is an important part of the school's program for many reasons. In the first place, it is through this reporting that the school can fulfill its responsibilities of telling parents of their children's status in school. Second, it gives the school an opportunity to enlist the parent's help in educating his child. Third, it gives the school an opportunity to explain its program to the parent and to solicit his understanding and assistance. All of these things are done by various means. The most common are report cards, parent conferences, and letters to parents.

Report cards

By far the most common medium for reporting to parents is the report card. Different type of cards are used, but most schools report pupil progress by means of the ubiquitous A B C D F marking system in one guise or another. Because of the inadequacies of A B C D F marks, there is a definite trend toward supplementing these marks by adding to report cards marks in such things as effort, behavior, study habits, and attitudes. Also, many schools provide considerable opportunity for the teacher's comments and, increasingly, an opportunity for parents to comment in reply.

The report card is a vital link in the teacher's relationship with pupils and parents. Improper marking can upset pupils' morale and destroy home relationships. However, if a mark is consistent with what has been going on in class, the pupils will usually accept it without question. So will most parents if they are forewarned.

At any rate, the teacher must be careful in making out report

cards. Quite often the school provides definite instructions for preparing them. When this is done, the teacher should follow the instructions to the letter. If instructions are not available, the teacher should be sure to find out from a supervisor or experienced teacher just what the procedures are. It is always better to find out before one makes a *faux pas* than afterward.

Some examples of report cards used in secondary schools follow. Note the difference in procedure. Note what is included on each card. Criticize the cards. Which do you think is most satisfactory? Attempt to fill out the report for some youth. Doing so may point out several things you had not thought of. Which do you prefer? Why?

Look at the report card files in your curriculum library. Consider the merits of the various pupil progress cards and marking systems.

Name <u> </u> <u> </u> <u> </u> Wethersfield Junior High School Year 195 <u> </u> — 195 <u> </u>		First Quarter			Second Quarter			Third Quarter			Fourth Quarter			Year's Average
Grade 9	Teachers	Subject	Effort	Citizenship	Subject	Effort	Citizenship	Subject	Effort	Citizenship	Subject	Effort	Citizenship	
Home Room														
Subjects														
Algebra														
Ancient History														
Art														
English														
General Business														
Home Economics														
Industrial Arts														
Latin														
Mathematics 9														
Music														
Science														
Social Studies														
Days Absent														
Times Tardy														

Figure 7. Wethersfield Junior High School Report Card. (Used by permission of the Superintendent of Schools, Wethersfield, Conn.)

Supplementary reports

Many schools find the report card alone insufficient as a basis for reporting pupil progress, even when some information over and above marks is supplied to parents. To meet this need, several schools issue supplementary progress reports from time to time. Preparing these reports may be the responsibility of the classroom

REPORT TO PARENTS

To The Parents Of Junior High School Students: ⁴

This report of your child's progress will be sent to you four times during the school year. The report is our attempt to acquaint you with your child's growth and development in the whole school program. It is not our intention to provide a comparison of any child's achievement with that of other members of his class. The grades report each child's progress in relation to what we can reasonably expect him to accomplish in the light of his own ability. We will try to emphasize the factors which we feel are producing the behavior and achievement, for it is this analysis of causes which will enable you to help in the guidance and development of your child's learning experiences.

We will welcome your comments and your personal visits to school. Both will help to bring about the greatest possible personal, social and scholastic growth of your child during this school year.

CHARLES W. WILLIS,

Superintendent of Schools.

H—Honor

S—Satisfactory

U—Unsatisfactory

⁴Instructions to Parents from Harford County Junior High School Report to Parents. Used by permission of Board of Education of Harford County, Bel Air, Maryland.

JANUARY 31st

Core	_____	Teacher's Comment
Science	_____	
Mathematics	_____	
Arts and Crafts	_____	
Home Economics	_____	
Industrial Arts	_____	
Agriculture	_____	
Music	_____	
Physical Education	_____	
Attendance	<div> <div>Days Present</div> <div>Days Absent</div> </div> <div> <div>_____</div> <div>_____</div> </div>	
Parent's Comment		
Parent's Signature		

*Sample Page from Harford County Junior High School Report to Parents Used by permission of Board of Education of Harford County, Bel Air, Maryland.

UNSATISFACTORY PROGRESS REPORT *

Guidance Department, Wethersfield High School

Student _____ Grade _____ Date _____ 195 _____
Subject _____ Subject Teacher _____

ANALYSIS OF THE STUDENT'S EFFORT

- _____ Course is difficult, but student is working faithfully.
- _____ Can master subject only if willing to make necessary effort.
- _____ Having difficulty right now, but it should prove temporary.
- _____ Fails to submit assignments regularly. Must constantly be reminded.
- _____ Prepares daily assignments, but does them carelessly.
- _____ Neglects to ask questions or seek help from teacher.
- _____ Gives up when encountering slightest difficulty in assignment.
- _____ Effort is confined to study period; dashes off a written assignment, just to get it finished. Neglects to do any real studying and tells parents homework was completed in school.
- _____ Apparently does not spend enough time studying at home.
- _____ Tries to bluff in class, and depends on last-minute cramming for tests and examinations.
- _____ Needs parental supervision of home study. To obtain satisfactory grades, should spend an hour and a half to two hours of study at home—without radio, television, telephone, or other distractions.
- _____ Does not review unless class is specifically directed to do so.
- _____ Lacks order and system in work and method of study.
- _____ Fails to record homework assignments, then doesn't know what to do.
- _____ Comes to class without pen, notebook, books, or other equipment needed; then disturbs others by trying to borrow from them.
- _____ Usually takes home only one textbook—sometimes none at all.
- _____ Lets assignments go until the last minute.
- _____ Makes a half-hearted attempt to do assignments, then submits incomplete work.
- _____ Fails to check own work.
- _____ Turns in examination papers that are untidy, carelessly written, or incomplete.
- _____ Daily work is usually untidy, carelessly written, or incomplete.
- _____ Advisable for parents to inspect regularly all homework assignments.

ANALYSIS OF THE STUDENT'S DISCIPLINE

- _____ Frequently absent; does not make up assignments.
- _____ Frequently late.
- _____ Social activities seem to take precedence over school duties.
- _____ May be led by others much too easily.
- _____ Is obviously too tired during school day to put forth best effort—may be suffering from too much out-of-school work, or social activity, or television, etc.
- _____ Is indolent; works only if checked closely by teachers.
- _____ Is inattentive in class—inclined to daydream.

* Used by permission of Superintendent of Schools, Wethersfield, Conn.

- _____ Is always quick with an alibi.
- _____ Frequently requires disciplinary attention—is talkative in class, childish at times; distracts and disturbs other students; likes to show off.
- _____ Sometimes careless of personal hygiene and appearance.
- _____ Undisciplined and immature—sometimes defies school regulations.
- _____ Resents correction and effort of school staff to train and help.
- _____ Is sometimes disrespectful to teachers.
- _____ It would be advisable for parents to check on student's outside work, school activities and companionship.
- _____ Should be checked to see that associates are schoolmates rather than older adult companions, especially if the latter are not improving the student's character, morals and ideals.
- _____ Reason for student's working after school should be carefully reviewed by parents.
- _____ Student has too much spending money, is selfishly concerned only in hitting a social pace far beyond that suitable and to the neglect of school duties.
- _____ Does not realize that study must come before pleasure.

ANALYSIS OF THE STUDENT'S ATTITUDES

- _____ Seems to be indifferent to success or failure in school work.
- _____ Thinks school work is unimportant; just aims to "get by."
- _____ Takes no pride in doing work well.
- _____ Can be counted on to take the line of least resistance.
- _____ Shows excellent home training at all times.
- _____ Is respectful and polite with teachers and companions.
- _____ Has ability to do better work, but lacks determination and interest.
- _____ Is not responsive in class; fails to participate in class discussion.
- _____ Lacks loyalty to the school—lacks interest in extracurricular and athletic activities; is seldom seen attending school functions with other students.
- _____ Lacks pride in upholding reputation of school, teachers, parents, and fellow students.
- _____ Has clearly indicated a wish not to be attending this school.
- _____ Has indicated a wish to be following a different course.
- _____ Wants to quit school and go to work.
- _____ Has no appreciation of the value of an education or of the effort and sacrifices of others to make an education possible.
- _____ Evidences good intentions at times, but may lack the strength of character to carry them out.
- _____ Disturbing home conditions may create psychological factors that interfere with study and interest in school.
- _____ Is unconcerned about displeasing parents with a poor report card.

HIS PRESENT GRADE OF SCHOLASTIC ACHIEVEMENT IS _____

Other Remarks or Recommendations: _____

Interviewed by _____ Date _____ 195 _____

teacher, the homeroom teacher, or the guidance personnel. More often than not, supplementary reports take the form of warnings of possible failure or reports of unsatisfactory progress. In a few school systems such reports are sent on other occasions, for example, to notify the parent that the pupil is doing well. These reports may be made as notes to parents, warning slips, checklists, conferences, and letters of commendation. A typical form used at the Wethersfield Connecticut High School appears on pages 246-247.

Letters to parents

Letters to parents are of two types: (1) routine letters which are used as reports to parents in addition to, or in place of, report cards; (2) letters for special occasions—requests to see the parent, invitations to class functions, letters notifying the parent about the pupil's work, and letters calling the parent's attention to some abnormality in the child's behavior.

Letters to parents—no matter what their purpose—should be carefully written. They should always be correct as to form and style. Errors in spelling, composition, grammar, and sentence structure should be avoided at all costs. Errors which would never be noticed in the letter of a lawyer, doctor, or dentist may be very embarrassing if made by a teacher. This is particularly true in the so-called better neighborhoods. Teachers should not take offense at parents' expecting such high standards in English usage. It is the price of being a teacher. "Teachers *should* know, you know."

Letters used as progress reports should be short and to the point. Unless one is careful, such letters soon become stereotyped. If possible, each letter should be a personal message to the parents, but even a stereotyped letter is better than one that is not clear. In writing to parents, teachers should remember that parents may not be familiar with the professional jargon of teachers. Consequently, the teacher should attempt to write in clear, idiomatic English. Sentences like, "Mary seems to have difficulty adjusting to the group," may be crystal clear to you but mean little to some parents. In a report concerning a seventh-grader, the statement that "Lucy seems to be a little immature" may seem appropriate enough to you and your colleagues, but it can make you the laughing stock of the country club set.

In writing such letters it is usually best to start and end on a pleasant note. A frequent recommendation is always to commence

by reporting something favorable about the pupil and ending in an optimistic vein. This is sound advice. However, every letter to parents is a professional diagnosis and should be composed carefully and soberly. The effort to be pleasant must not outweigh truthfulness. The parent is entitled to an accurate report which reflects the teacher's best judgment concerning the child. Sometimes teachers are so careful not to hurt the parent's feelings and so eager to establish amicable relations with the parent that they fail to point out clearly the pupil's failings. This is not fair to the parent. While the teacher should not be tactless, he should let the parent know the facts about his child. The best rule is to decide what you wish the parent to know and then say it simply and pleasantly.

The body of the report should estimate the progress of the pupil as accurately as possible. This estimate should indicate the pupil's progress in relation to his ability and also in relation to the normal achievement for pupils at his grade level. It should point out the pupil's strong and weak points, and show where he needs help. The report should not be limited to achievement in subject matter alone, but should also provide information concerning the pupil's social behavior and other aspects of his activities in school. At times, the teacher will wish to ask the parent for his cooperation in some specific way. Certainly he should always ask the parent for his comments.

An example of a letter to a parent

When writing a letter to a parent, be brief, clear, pleasant, honest, and factual. An example of a homeroom teacher's letter to a ninth-grader's parents follows.

Dear Mr. and Mrs. Smith:

Joan's teachers have reported to me the results of her first quarter's work. They are quite satisfactory except for algebra, in which she is experiencing some difficulty. Her difficulty seems to be caused by a lack of understanding of mathematical principles. Mr. Courtney, her algebra teacher, feels that she should have extra help in his course. In all other respects, Joan seems to be making an excellent start this year.

If you have any suggestions or comments to make about Joan's school work, we should welcome them. Also, we should very much like to have you visit our school whenever it is convenient for you.

Cordially yours,
Jennie Jones

Compare the merits and faults of the following as a means of reporting to parents:

- letter marks
- percentage marks
- pass-fail marks
- letters to parents
- conferences with parents
- descriptive marks

Conferences with parents

Parent-teacher conferences are an increasingly popular method of reporting pupil progress to parents. This procedure has many advantages. It allows the teacher and the parent to discuss the pupil face to face. The conference should serve to create better understanding between parents and teachers and to obviate parental misunderstandings which often result from teachers' letters and report forms. The conference gives the parent an opportunity to ask questions and to make suggestions. It also gives the teacher an opportunity to solicit additional information from the parent and to suggest ways in which the parent can cooperate to improve the child's work.

Conferences can be very helpful as supplements to the written reports of pupil progress to parents. It is doubtful whether they should be the sole medium for reporting, although some elementary schools rely almost wholly upon them. In secondary schools, conferences are more likely to be arranged to meet certain definite problems.

In spite of their many advantages parent-teacher conferences have certain inherent drawbacks. They are often time-consuming and difficult to schedule. Sometimes they must be scheduled at hours which are inconvenient for the teacher. Moreover, occasionally, instead of clearing up misunderstandings between parents and teachers, conferences add to them. At times the parent may be difficult to deal with. Some parents are emotional, domineering, or excessively talkative. Some are opinionated and overly critical of the school. The competent teacher attempts to plan and conduct parent-teacher conferences so as to avoid these difficulties as much as he can.

Some suggestions for conducting parent-teacher conferences follow:

1. Plan what you wish to say and how you wish to conduct the conference. Do not make a fetish of your plan, but do try to keep to the purpose of the conference at least. If possible, keep the conference moving. On the other hand, do not rush the parent. In your planning allow enough time to talk things over thoroughly and leisurely.

2. Be pleasant, courteous, tactful, and patient. Remember that the visit to the school may often be upsetting to the parent. Listen to him and try to understand his point of view. Remember that he has much information valuable to you. Let him tell it to you. If he is running hot, keep cool and let him talk it out. This is often an effective way to calm an irate parent. However, do not be obsequious. One does not need to agree with a parent to be polite. If the parent is severely critical of the school, arrange for him to talk to the principal or someone else in authority. Remember at all times that a conference is serious business and should be conducted with care and dignity.

3. Be clear and specific. Try to be sure the parent understands you. Talk to him in simple English and avoid technical terms. Make specific points and back them up with specific examples. Avoid vague, unsubstantiated generalizations which may lead to misunderstanding. Summarizing at critical points during the conference and at its end may help eliminate confusion and ensure a common understanding of what has transpired.

4. Avoid criticizing other teachers and school officials. First, it is unethical. Second, it will surely hurt your standing with your colleagues. Third, it will probably cause the parent to form a poor impression of you.

5. Solicit the parent's cooperation. The school is as much his as it is yours, and he has as much at stake in its success as you do. His interest in his own children is presumably greater than yours. Many parents would be eager to help if they only knew how. On the other hand, the teacher should be cautious about making suggestions which the parent might resent as intrusions on his own privacy, home life, or social life. If any suggestions of this sort need to be made, the teacher should be sure that his suggestions are constructive and that the parent is ready to act upon them. Frequently the better part of discretion is to leave such suggestions to guidance personnel, an administrator, or a supervisor.

6. After the conference the teacher should note down what has been said, what suggestions have been made, and what conclusions have been reached. This should be done as soon as possible lest some of the information be forgotten.

7. Ordinarily there should be some follow-up on every teacher-parent conference.

Marks quite often become a bone of contention between parents and the school. Why? How can this be avoided?

In a conference the parent strongly criticizes the school administration or another teacher. You wholeheartedly agree with the parent. What should you do?

Describe what you consider the best system of marking and reporting to parents.

SUMMARY

Parents have a right to know how well their children are doing in school, and teachers have a duty to keep the parents informed. For years teachers have used marks to meet this obligation. Although many parents, pupils, and teachers do not realize it, marks, unfortunately, do not inform anyone of much of anything. Moreover, present-day marking systems tend to emphasize the mark rather than the learning. About the only value they have is a certain amount of incentive value, and even that seems to be overrated.

As teachers have come to recognize these facts, they have made numerous attempts to create better methods of evaluating and reporting pupils' progress. So far none of these attempts has been completely successful. Probably what is needed is a system which explains in writing how well a pupil is doing in relation to the standard for the group and to his own potentialities. In reporting to parents and pupils, such devices should undoubtedly be supplemented by conferences. Modern systems of reporting to parents seem to be moving in that direction. However, in many cases they still have a long distance to go. In the meantime, we shall have to do the best we can with what we have.

FOR FURTHER READING

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- Klausmeier, Herbert J., *Teaching in Secondary School*, Harper and Brothers, New York, 1958, Ch. 17.
- Risk, Thomas M., *Principles and Practices of Teaching in Secondary Schools*, Third Edition, American Book Company, New York, 1958, Ch. 19.
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Discipline

The perennial problem

Discipline has always been a problem for teachers. Many contemporaries of the Hoosier Schoolmaster controlled their classes by might. So long as he could lick any boy in the class, the master had discipline. If he was *not* up to the fight, as often as *not* the "scholars" would run him out of town. Certainly discipline was a problem in nineteenth-century Indiana. It was also a problem in eighteenth-century England. In those days when caning was king and when Headmaster Keate of Eton obtained control by assembling the entire school to see the sixth form flogged, most of the famed public schools were rocked by student rebellions. In fact, on at least one occasion, the masters had to call in the troops to rescue the school from the boys. As a rule, teachers of the twentieth century do not rely on fisticuffs for classroom control; neither do they need to call in the militia; but many still find *good discipline difficult to maintain*. Most new teachers find it their major problem. Many experienced teachers are no less concerned with it. It is one of the most frequent causes for teachers' failing and leaving the profession. This chapter will attempt to help teachers achieve good classroom discipline.

What is good discipline?

In modern times our concept of the well-disciplined class has changed. Not many years ago the basic criterion was quietness. One could literally hear a pin drop. Some teachers and principals still

believe silence to be a *sine qua non*, but, on the whole, modern thinking has adopted a more reasonable point of view.

In the modern classroom the class atmosphere is less repressed. Boys and girls talk to each other quietly about their work. Others move about the class on one errand or another. In a way, the class resembles the organized confusion of a telecast. At the studio everything seems to be happening at once; people seem to be running every which way without rhyme or reason; yet the action is purposive—all leading toward the successful production of the show. So it is with the modern class. The seeming confusion is purposive: the many activities are all directed toward the goal.

This changing concept of classroom discipline has led some neophytes to believe that order is not necessary. Nothing could be further from the truth. The classroom is a place for learning. Any disturbance which prevents or hinders learning is unpardonable. Orderliness is a "must." The difference between the classroom of today and that of yesterday is in the type of order. The teacher in today's classroom tries to emphasize courtesy, cooperation, and self-control. Instead of the totalitarianism of the traditional teacher, who was in every sense a dictator, the modern class stresses the freedoms of democracy. The class is free from fear. The pupils are citizens of the class, not subjects of the teacher. Their job is to cooperate for the common good, to obey the laws of their classroom democracy, and to respect and obey proper authority. Their role in class is similar to our own as citizens of our country. Perhaps, on the whole, today's adolescents take their roles more seriously and are more law-abiding than adults.

What is good discipline? How can you tell a well-ordered classroom?
How much freedom should there be in a classroom?

CAUSES OF MISBEHAVIOR

Many causes for each incident

Each individual case of misbehavior ordinarily has many causes. Seldom is any one motive the sole cause of any particular action, good or bad. What is it that makes a normally pleasant youth rebel toward the end of the last period on a sunny June day? Let us look at the possibilities.

A certain young man has been sitting in a hot classroom for almost an entire class period. For much of that time the sun has been shining into his eyes because of a broken window shade. This is the last period and he has had no food for several hours. He is tired, hot, and hungry. His head is beginning to ache. The class is deadly dull. All period long the class has been reviewing subject matter detail by answering questions. Around and around the class go the questions. What are the properties of chlorine? What is the formula for sulfuric acid? What is oxidation? The pupils do not seem to know the answers very well, and this exasperates the teacher. As each pupil fails to get an answer, the teacher berates him and threatens him with dire results on the examination to be held next week. The glumness of the class increases. Our young man's mind wanders. He watches the freight train going down the track toward New York and counts the cars. Then he falls to dreaming about the new phonograph records he plans to add to his collection. Suddenly he hears his name.

"I am sorry Mr. ———, I did not understand the question."

"You would have understood it all right if you had been listening. How do you ever expect me to get you thick-headed nincompoops ready for this examination if you don't pay attention? I asked you, who was Lavoisier?"

At the moment our young man hasn't the slightest idea and mutters something to that effect in an undertone.

"What did you say? What are you muttering?"

Goaded beyond repair our young man blurts out, "I said I don't know and I don't care."

And then the sky falls. Who can say what caused the pupil to blow up? The heat, the sun, the headache, the hunger, the poor teaching, the boredom, the woolgathering, the teacher's exasperation, the nagging, the abuse? All these things contributed, with perhaps many others we do not know of. Almost every incident of misbehavior is the result of a multitude of causes.

The community

One source of misbehavior is the environment in which the youth lives. In an area where crime, sex irregularities, drunkenness, drug addiction, bar-room fights, and knifings are common, it would be naive to expect pupils to rise overnight to the prim middle-class

mores of the ordinary school and school teacher. For youths from such areas to achieve acceptable standards of behavior is a long, hard process. Fortunately, even these youths want to be respected and be respectable. The idealism of youth may be warped in them, but it is there.

A school administrator never tired of relating an incident which occurred in a slum area many years ago. Two girls were fighting on the street after the age-old manner of fishwives. The coming of the superintendent of schools brought the fight to a quick halt, but one of the girls thought that she should apologize and explain. She hurried up to him and blurted, "I know I shouldn't swear, Mr. C. but, honest to God, she made me so damned mad . . ." This young lady had not as yet achieved the standard of speech and conduct one would hope for, but, after her fashion, she was trying.

Home situations cause much school misbehavior. Boys and girls carry sibling rivalries, jealousies, and attendant high feelings to school with them. Pupils are often under parental pressure of one sort or another. Resentment and rebellion against such pressures can carry over into the classroom. Both neglected and overprotected pupils have not established desirable behavior patterns in many instances, and continue their misbehavior in school. Homes in which values differ from those of the school make the work of the teacher more difficult—particularly homes in which the parents have little interest in secondary education.

Emotional difficulties

Teen-agers seem to have more than their share of emotional troubles. These disturbances are seldom serious, but they are frequently upsetting. The cause of the upset may have nothing whatsoever to do with the class or the school. For instance, let us suppose that a boy has been late for breakfast and has missed his bus. His father, who has had to drive him to school, has let him feel the sharp side of his tongue. Before school starts, the boy is already emotionally upset. A trifle may set him off.

Any threat to a pupil's security may lead to undesirable behavior. To prevent the loss of security, or to regain it once it is lost, the pupil may resort to subterfuge, escape, or something else equally undesirable. Many common classroom conditions are serious threats to the security of pupils. Threats of failure, rejection, ridicule, and

inconsistency on the part of teachers are some of them. The misuse of tests is one of the most common. Over-difficult tests and unnecessarily high and rigid standards of achievement may cause fear, jealousy, and antagonism. The natural result is cheating. Similarly, ill-conceived practices such as sarcasm and criticism of individuals before the class cause embarrassment, resentment, and class tension. In such an atmosphere many pupils resort to misbehavior as a defense.

At times, misbehavior is symptomatic of social maladjustment. Boys and girls who are not accepted by the group often make nuisances of themselves in order to gain status. Indeed, some of them want attention and recognition so much that they welcome being punished to get it.

School-caused misbehavior

Proper handling of problem cases is, of course, a difficult and time-consuming business. Fortunately, most classroom offenses stem from causes within the teacher's control. Some of these causes are poor teaching, poor curriculum, poor classroom management, poor techniques of discipline, and personality defects in the teacher. Curricula which do not provide for the needs and interests of youth sow the seeds of misconduct. The further the curriculum gets from the life of the youth, the less likely he is to see its worth, and the more liable he is to seek entertainment during school hours. Similarly, poor teaching produces dead, pointless classes which breed misconduct. Like poor teaching, poor methods of discipline engender misbehavior by causing dissatisfaction, discontent, and tension. The succeeding section will discuss these causes more fully and attempt to show how to avoid them.

Think back over the classes you have attended in which there have been disciplinary incidents. What seemed to be the cause? What were the causes of disciplinary incidents involving you or your friends when you were in secondary school?

Why do pupils misbehave? List all the possible causes for misbehavior that you can name. How might knowledge of the causes of misbehavior influence the teacher's action?

Many (some say most) behavior problems are teacher-created. Can you think of some examples? How can the teacher avoid creating such situations?

ACHIEVING CLASSROOM CONTROL

Teacher personality and classroom atmosphere

The personality of the teacher does much to create the atmosphere of the class. Teachers who rub pupils the wrong way, who don't like adolescents, who are more interested in the subject than in their pupils, who are inconsiderate, unhappy, and lack a sense of humor are likely to have disturbances in their classes. The teacher who can create a feeling of rapport with his pupils, like the skipper running a happy ship, usually has little difficulty.

Teachers' attitudes tend to spread to the class. If the teacher dislikes school work, the class will probably dislike it too. Tense teachers usually convey their tensions to their pupils, and teachers who expect misbehavior usually get it. Perhaps the first rule to follow is not to look for trouble, for "he who looks for trouble shall surely find it." By acting on the assumption that everything is going to be all right, and by concentrating all his efforts on the main job, i.e., teaching, the teacher will eliminate a good share of the disturbances.

Nevertheless, even in the best-regulated classes and schools, youngsters will misbehave. In some neighborhoods they seem to do little else. The teacher must try to take misbehavior in his stride. This calls for keeping a tight rein on his own emotions—not always an easy thing to do.

Achieving the proper perspective

Perhaps the best technique for keeping on an even keel is not to take one's self too seriously. Teachers are human, too. They do not know everything, and they do make mistakes. What is more, the pupils know it. No amount of dissembling can keep the truth from them. The sooner the teacher realizes this and relaxes, the better off he will be.

Many young teachers seem to think that each incident of pupil misbehavior is a personal insult. This is not so. Actually, although this may prick the pedagogic pride, most teachers are not important enough in the pupils' scheme of things to be acted against personally. The effect of misbehavior on the teacher rarely enters the miscreants' minds; but if they find that their misbehavior annoys

the teacher, watch out, for what is more fun to a group of teen-agers than to plague a resentful victim and "watch him burn?" Teachers should not be upset by pupils' misconduct any more than they should be upset by pupils' lack of knowledge. This is the way youngsters are; the teacher's job is to help them achieve the highest goals they can. If one views pupil misdemeanors as personal insults, one may soon find that they have become just that.

In other words, a teacher needs a sense of humor and a sense of proportion. When the teacher gets to the point where he can laugh at his own failings, he is well on the way to developing a pleasant classroom atmosphere and good classroom control. Clowning in the classroom should not be encouraged, but when it is funny, laugh at it and then turn the good feeling toward the work of the day. Laughing with pupils clears the atmosphere. It is always easier to learn in a pleasant class than in a repressive one, and after all, pupil learning is what you are after. The teacher needs a sense of perspective, too. He needs to put first things first. He is not a policeman. He is a teacher. His primary job is not to enforce rules, but to draw out learning. He should not let little things upset him.

Creating a friendly atmosphere

The teacher should also try to make the classroom a friendly place. By his actions, rather than by his words, the teacher should let the pupils know that he would like to be a friend. This does not mean that he should attempt to be a "buddy." In such cases familiarity may breed contempt. No one can be a boon companion of everyone, and teachers must avoid creating favorites. Besides, adolescents prefer that adults act their age.

Perhaps the best summary of what we have tried to say is that the teacher should set a good example. If his behavior in the classroom is truly considerate, courteous, patient, pleasant, and sympathetic, then that of the class will probably be so, too.

What can you do about the pupil whose behavior problems arise from the home? From emotional difficulties? From social problems?

Planning as preventive discipline

Proper planning is indispensable for establishing and maintaining good classroom discipline. As a general rule, boys and girls

wish to behave properly, and, what is more, they usually want to learn if the subject matter seems to be worth learning. Many, if not most, disturbances result from poorly organized classes—classes which lack purpose, classes which start late, classes in which pupils have nothing to do. Careful planning can usually eliminate faults of this sort.

Many teachers bring troubles on themselves by neglecting individual differences. Picture the discipline problem of the tenth-grade teacher who planned to spend four weeks on *The Tale of Two Cities*. Four or five of her brightest boys read the story over the weekend and so had time on their hands. To find something to do, they organized a ball game, using a soap eraser and a ruler. Providing for individual differences might have eliminated this problem.

"Our teacher is funny," a small boy reported to his mother during his first school experience. "She wants you to keep at work all the time whether you have anything to do or not."¹ This anecdote is no less true today than it was in 1892. The devil makes work for idle hands. Pupils who have nothing to do will find things to do. Planning which leaves dead spots in the class encourages trouble. To avoid these empty spots, the teacher must be sure that everyone has plenty of worthwhile activities. Classes in which the teacher does all the work and the pupils just sit and vegetate should be avoided.

An essential of good planning is to provide plenty of good materials for pupils to work with. Failure to provide enough of the right materials causes the worst dead spots of all. Lack of material when one needs it is frustrating. The teacher's lesson plan should include procedures for rapid delivery and collection of materials in order to eliminate periods of waiting in which pupils so often start their mischief.

Much misbehavior is caused by teachers' ignoring pupils' predispositions. Any class procedure which violates the natural inclinations of boys and girls creates a situation which can lead to misconduct. Adolescents are naturally gregarious social creatures. It is unreasonable to insist on an absolutely quiet classroom in which "you can hear a pin drop." A class which is all keyed up—having just come from an exciting assembly, perhaps—cannot easily settle down to a placid routine. By adjusting the material and tempo of the instruction to the predispositions and mood of the class and of indi-

¹ Sarah L. Arnold, "Waymarks," *Journal of Education*, February 4, 1892.

vidual members of it, the predispositions of pupils may be made an aid to learning rather than a threat to peace. In his planning the teacher must allow for these predispositions; he must also be flexible enough to be able to change his plans, when necessary, to fit the mood of the class.

Above all, the teacher must make the class interesting. Variety is the spice of life, so the teacher should avoid dull routine. Everyone in the class should have something interesting to do. The teacher will have little need to worry about discipline if his planning keeps the pupils busy with something that appeals to them. The work necessary to provide plenty of good materials and a proper plan is usually rewarded by easier discipline. It lessens both the opportunity and the need for mischief. One might call it preventive discipline.

React to the following statement: The most important procedure to ensure good discipline in a class is good planning.

A few definite rules

Unfortunately, one can seldom plan a class so well that all one's problems are solved. The best laid plans "gang aft agley"; consequently, each class must have rules. One of the maxims of our country's forefathers was that the government which governs least governs best. This maxim seems to apply, to some extent, to the modern classroom. Well-disciplined classes are classes with few rules. Every class needs some rules; no class needs many. Too many rules are confusing to pupils, seem unreasonable to them, and may become unenforceable. A few definite rules which make sense to pupils and teachers alike will prove to be the most successful.

It goes without saying that every class rule should seem reasonable to the pupils. Any attempt to enforce what pupils find unreasonable is bound to lead to a struggle. Many teachers, in re-examining their class rules, will probably find some of questionable validity. Rules that are too strict create tensions. Rebellion, misdeemeanors, and an occasional blow-up may be the result. On the other hand, teachers who let pupils do whatever they please create equally severe difficulties for themselves. Such classes are bound to become noisy and disorderly. Unfortunately, some teachers today believe that, by removing all controls, they are creating a permissive atmosphere. They are not. A permissive atmosphere is a friendly atmosphere in which the pupil is not afraid. It is not freedom from

controls; that is laissez faire. Generally speaking, little worthwhile learning comes from laissez-faire teaching.

Perhaps the best way to develop acceptable rules is to have the pupils define their own standards of behavior. Pupils usually abide by their own rules quite willingly.

What rules or standards for behavior are appropriate for a high-school class?

Should a set of rules for classroom behavior be provided? (Some texts say, yes; some say, no.) If so, who should make it and how should it be enforced? Be prepared to defend your position.

Some teachers ask the class to develop their own rules for behavior. What do you think of this plan? How would you go about developing such rules?

Enforcing the rules

Once rules are made, they must be enforced. The pupils should have no doubt that these rules are valid and that breaking them will not be countenanced. Laxity in the enforcement of rules makes them worthless. The pupils lose respect for them and resent subsequent attempts to enforce them. The American Revolution was caused, at least in part, by a British attempt to enforce laws, some of which were quite reasonable, after a long period of laxity.

Although it is possible to be too rigid, one characteristic of the teacher with good control is consistent enforcement of the class rules. Boys and girls like to know where they stand. The teacher whose rules are sacrosanct today and of no importance tomorrow is anathema to them. Also, since getting away with mischief may be possible, the pupils will be tempted to try their luck.

Along with consistency goes fairness. The teacher must treat all pupils alike. The teacher who has favorites or who treats some pupils preferentially may be creating behavior problems. Playing favorites loses the teacher the respect of his pupils and engenders active dislike in the pupils not so favored.

The teacher, then, should try to be consistent and fair. This, of course, does not mean that one should never make an exception to a rule. However, the exceptions should be truly exceptional and made for an extraordinarily good reason. It helps considerably if the merit of the reason is evident to the class as a whole.

Avoiding poor enforcement techniques

The teacher should guard against nagging. At times, he will do better to disregard minor infractions than to attempt ceaselessly to correct the pupils. Nagging often results from insistence on unnecessarily high standards of pupil behavior and from poor organization of classes. If a teacher finds it necessary to keep admonishing a pupil, he should check to see whether the pupil has something worthwhile and appropriate to do. A good remedy is to ask a question of the youth whose mind seems to be wandering or to start the restless pupil off on a new activity. Such techniques distract youths from mischief. In this way, the teacher who keeps alert can often head off most cases of incipient misbehavior before they start.

Besides nagging, other poor methods of enforcing rules also cause misconduct. Harsh discipline, for instance, often brings about resentment and revolt. In the old English public schools it resulted in open rebellion and the thrashing of the teachers by the pupils. In spite of the number of people who believe in force as the supreme disciplinary agent, harshness has never been successful. Quintilian, the great Roman teacher who wrote in the first century, shows why. He pointed out that corporal punishment makes the pupils hate their studies and often causes them to stop trying. Besides, it does little good since it often merely hardens them in their misbehavior. A good teacher, he said, can do better without it. These warnings are still valid after 1,900 years. Harsh discipline is likely to create more discipline problems than it cures.

In enforcing his rules, the teacher should avoid making big scenes out of insignificant acts. This is utter folly. Most little things can be brushed off lightly. Usually a look or a pleasant word will suffice. The teacher who makes major issues of minor transgressions soon finds that they are no longer minor. A case in point is the running battle some teachers conduct against chewing gum. Most Americans chew gum; many people accept it as perfectly proper; so why fuss about it? Save your fire for something important. Such a policy will not only help the teacher avoid unpleasant scenes, but will also obviate nagging and a repressive, punitive atmosphere in the class. The latter should be avoided at all costs because it is a deterrent to learning.

In this connection, the teacher should also shun threats and

ultimatums. These create scenes and, if a pupil misbehaves, fetter the teacher's course of action, since he must carry out his threats if he is to keep the pupils' respect.

The role of punishment

Sooner or later, no matter how sensible the rules and how careful the planning, some pupil will commit an offense for which he must be punished. The Mikado probably meant well when he sang:

My object all sublime
I shall achieve in time—
To let the punishment fit the crime—
The punishment fit the crime;
And make each prisoner pent
Unwillingly represent
A source of innocent merriment,
Of innocent merriment! ²

But his scheme would not have worked well. Punishment should never be used as a source of "innocent merriment." Whenever possible, punishment should be constructive. If a pupil smashes a window wilfully or carelessly, let him clean up the mess and make proper restitution for it. In general, if his punishment is the logical result of his misconduct, the pupil will accept it without resentment and may learn not to offend in the same way again.

Punishment should be used sparingly because overuse of it creates the repressive atmosphere teachers wish to avoid. Furthermore, overusing punishment takes the force out of it. Punishment should be held back as a reserve for important offenses. The teacher who commits his reserve too soon or too often finds he has little to fall back on in real crises.

When punishment is used, it should be swift, sure, and impressive. The teacher should never punish on impulse; he should think twice before he acts; but he should act at once. Should he himself become emotional, however, he would do well to calm down before prescribing the punishment.

Harsh punishment should be avoided. Sarcasm, ridicule, humiliation, corporal punishment, and unnatural punishment often do more harm than good. Verbal punishment should be delivered in

² W. S. Gilbert and Arthur Sullivan, *The Mikado*, Act II.

private. While punishment should not be harsh, it should be severe enough to impress the pupil. Demerits and detention quite often do not have much meaning to the pupil. For instance, a certain teacher kept a boy after school every afternoon for a month, apparently without effect. One afternoon he found out why: the boy had to wait for his father every afternoon anyway and was sometimes hard put to find ways to kill time. Detention to him was no hardship at all and so was quite ineffective.

Why should the teacher avoid use of the following?

- sarcasm
- threats
- nagging
- yelling
- constant vocal correction
- arguments with pupils
- corporal punishment.

Sending pupils to the office

Sometimes behavior is of the sort which makes it necessary for the teacher to send the miscreant to the office. As a general rule, principals and vice-principals are not overjoyed by the visits of these young people. A certain vice-principal was discussing an important matter with a visitor when a surly-faced girl of fifteen arrived in his office with a note from her teacher. He looked at it and then sent her into another office to wait. As soon as she had left he exclaimed to his guest, "Now what am I supposed to do with her? I don't mind having them come up here once in a while, but you'd think that woman could handle some of her own discipline!"

Each teacher is responsible for his "own discipline." Sending the pupil to the office should be reserved for really serious offenses. The principal or his assistant is not in a good position to deal with routine cases. He is handicapped by not knowing what has happened, and his special disciplinary powers are best suited for major offenses. Frequently his sympathies lie with the pupil. Furthermore, sending the pupil to the office is a sign of weakness in the teacher and lowers his prestige among the pupils. Doubtless there are crises when the teacher must cast pupils into outer darkness, but these occasions should be kept to a minimum. If he handles his own discipline problems, the teacher will usually rise in the esteem of his pupils and of his principal as well.

Although most principals and other superiors expect teachers to handle their own discipline problems, they welcome the opportunity to be of help. The beginning teacher should certainly go to his superior for assistance. The latter will gladly give the teacher sound advice and practical help, if he can.

Helping the problem child

Every school has problem pupils who for some reason or other do not seem able to adapt to the school program. This inability to adjust to a school situation may be caused by problems at home, the social environment in the community, or personality defects. Frequently such pupils seek release from their problems in undesirable ways. These pupils need to be helped. They should be treated with sympathy and understanding. In most cases, they should be referred to guidance counselors for help. In the meantime the teacher should try to find out as much as possible about these pupils and treat them accordingly.

Some youths deviate far from the normal. Although the teacher should attempt to help each boy and girl if he can, the time necessary for treating deviates may cause him to neglect the rest of the class. Moreover, the teacher may not know what to do anyway. Deviates often need specialized help; the teacher's job is to get them to such help as soon as possible.

Teachers are usually well aware of the obstreperous pupil. However, a behavior problem which is fully as dangerous is presented by the quiet, withdrawn pupil. Such pupils often develop severe emotional problems. Any person who seems to be too quiet and withdrawn should also be referred to the guidance counselor.

Criticize the following "rules" for discipline:

1. Watch carefully for the first small signs of trouble and squelch them at once *with no exceptions*.
2. Hold your group to very high standards at first. You can relax later if the situation warrants it.
3. Be a real friend to the children.
4. Employ self-government only if you are sure the class is ready for it.
5. Be fair.
6. Be consistent.

Criticize the following practice reported by a national wire service:
"The Boston School Committee recently directed that the following commandments be read biweekly to pupils in grades 7 through 12.

1. Don't let your parents down; they've brought you up.
2. Be smart, obey. You'll give orders yourself some day.
3. Stop and think before you drink.
4. Ditch dirty thoughts fast or they'll ditch you.
5. Show-off driving is juvenile. Don't act your age.
6. Pick the right friends to be picked for a friend.
7. Choose a date fit for a mate.
8. Don't go steady unless you're ready.
9. Love God and neighbor.
10. Live carefully. The soul you save may be your own."

CREATING SELF-DISCIPLINE

Since modern schools advocate self-discipline rather than imposed authoritarian rule, teachers must consciously try to develop self-discipline. Self-discipline does not come naturally; it must be learned. Becoming self-disciplined is a time-consuming process. It is learned through practice. Teachers who are attempting to teach self-discipline should expect to proceed slowly.

The first step in achieving self-discipline is for boys and girls to find out what good behavior is. An excellent method by which to build pupil standards of behavior is to develop class codes of conduct. If a class code is worked out seriously and carefully, it can make a vital contribution to the pupils' personal behavior standards.

Developing a code of conduct

A good way to develop a code of conduct is illustrated below. At the beginning of each school year a certain social studies teacher addresses his class in the following manner: "We are going to have to spend the rest of the year here together. In order to keep out of each other's hair we need some rules. Let's talk the situation over and see if we can figure out what rules we want to have in this class." Then the class sets to work to discuss why they need rules and what kind of rules they need. Finally, they draw up a set of rules which a committee puts in final form for class adoption. During the discussion the teacher presides and makes suggestions. Most of his comments are questions such as, "What about chewing gum? Is that what you really want to do? Do you need that? Aren't you being a little strict?" The resulting rules are usually a workable code which the pupils will follow quite well. The teacher's greatest difficulty is to

keep the rules from becoming too strict and too detailed. Sometimes, after a few weeks, the teacher will suggest that the rules be reviewed and revised.

The foregoing technique has worked for this social studies teacher for twenty years, but it may be unsuitable for other teachers in different situations. Each teacher must suit his methods to his class and his own personality. Some classes of teen-agers are not ready for democratic procedures and could not satisfactorily work out their own code of conduct. The important thing is to develop for each class standards of conduct which the pupils will accept as reasonable and worthwhile.

Helping pupils improve their own standards

Frequently youths' standards are not quite what we would like them to be. Sometimes they live in homes and neighborhoods which see no value in the standards set by the school. When this is so, their teachers should help them arrive at suitable standards. This they cannot do by legislating standards; neither can they do it by criticizing the standards of the youths' families and friends directly. Doing so may serve only to arouse hostilities. The teachers must depend on the reasonableness and workability of the standards rather than on authority alone. They can show youths how many people make their lives more enjoyable by living by good codes. They can also let their pupils know how teachers and other people feel about proper conduct. In this way teachers can often convince pupils that these standards will make life better for them and induce them to adopt more suitable patterns of behavior voluntarily.

Enforcing rules as a way to self-discipline

Enforcing rules may itself be an opportunity to teach the fundamentals of self-discipline. Whenever a youth commits an offense of any magnitude, the teacher should talk to him. In this conference he can analyze the incident with the pupil. Together they can determine exactly what the misconduct has been, why it is unacceptable, and what the pupil should do for reparation. Used skilfully, this type of conference can produce real learning in self-discipline.

In some schools, teachers encourage the pupils to carry out the enforcement of class rules. Properly guided, this technique can help pupils achieve self-discipline, but it should be reserved only for

classes that are ready for it. Throwing too much responsibility on a class newly introduced to democratic procedures may cause the program to break down. Ordinarily, the enforcement of classroom rules should be the job of the teacher himself.

SUMMARY

Modern discipline emphasizes cooperation and self-discipline rather than authority. Incidents of misbehavior can have many causes. Among these causes are faulty personalities, poor home and neighborhood conditions, emotional difficulties, social maladjustments, fatigue, bad physical conditions, poor teaching, poor curricula, and poor classroom management. The fault lies with the teacher and the school as often as it does with the pupils.

The following rules should help the teacher achieve classroom control.

Set a good example:

Don't take yourself too seriously.

Develop a sense of humor.

Do as you would be done by.

Be friendly, but not too friendly.

Control your own temper.

Let sleeping dogs lie: expect good conduct; do not go looking for trouble.

Plan classes well:

Eliminate lags and dead spots.

Provide for individual differences.

Vary classroom activities.

Make classes interesting.

Make classes seem worthwhile.

Help pupils feel important.

Have a few definite rules and enforce them:

Let pupils help make the rules.

Be fair and consistent.

Don't make mountains out of molehills.

Avoid scenes.

Avoid ultimatums.

Avoid threats.

Do not nag.

Take it easy.

Punishment should be rare but, when necessary, swift and certain:

Never use sarcasm, ridicule, harsh or humiliating punishments.

Never embarrass pupils.

Avoid corporal punishment. If it must be used, let one of your superiors do it.

Try to develop self-discipline.

Refer problem cases to the guidance staff.

Stand on your own feet; assume the responsibility for your own classroom control.

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CHAPTER 14

Classroom management

Responsibilities for management

The responsibilities of teaching involve more than the dissemination of ideas by the teacher. A great deal of the teacher's time is spent with the management of his class. The keeping of records, reports, requisitions, the routine of the classroom itself, all occupy much of his school day. While the experienced teacher may consider it a matter of course, classroom management can and does present problems for the beginning teacher. The quicker he learns to master the routine, and the quicker he realizes the effect of classroom management on study and learning methods, the quicker the beginning teacher will become master of the situation.

Too seldom are new teachers properly oriented to the routine of a particular school, the records and reports that must be kept or filed, and the physical environment that should prevail. This chapter, therefore, will try to clarify some of the problems of classroom management and will attempt to outline procedures that will aid the teacher in managing the classroom more effectively.

Think back over your own high-school days. What jobs did your teachers do that were not strictly teaching? In what ways did the performing of these tasks make the learning process easier or more enjoyable for you?

THE PHYSICAL ENVIRONMENT

The appearance of the classroom

The physical facilities of the classroom play an important part in setting the stage for instruction. A pleasant environment is an aid

to learning. Checking such things as lighting, windows, temperature, ventilation, and decor is part of the teacher's job.

Of course, a teacher can do little about the size and shape of his classroom, but he should do his best to make it as pleasing and comfortable as possible. In doing this, he should enlist the aid of his pupils. Untutored boys and girls are inclined to be disorderly, but, like everyone else, they prefer pleasant surroundings. If appealed to properly, they will often spend much time and effort in improving the orderliness and appearance of the classroom. This is particularly true of the classroom in the junior high school, where the teacher can often enlist pupil aid by creating a feeling of proprietorship in the pupil. Such feelings are more difficult to arouse in the highly departmentalized senior high school. There the teacher may have to do much of the work himself, although an appeal to the maturity and good sense of the pupils may enlist considerable cooperation from them. On both the junior- and senior-high-school levels, pupils have been eminently successful in beautifying their classrooms.

Cleanliness and orderliness

Perhaps the first thing one should do to make a classroom attractive is to see that it is clean and orderly. To be sure, it is the custodian's job to keep the classroom clean, but his work can be made much easier if the pupils and teachers cooperate. If possible, the teacher should have a place for everything, and everything should be in its place. In classrooms which have a scarcity of closet, cupboard, and other storage space, this will require considerable improvising. However, it is well worth the effort. So is cleaning up after oneself. To spend the last few minutes of a class period cleaning the chalkboards, putting materials away, and rearranging the room is an excellent practice. It should make more pleasant the class that follows.

Brightening up the room

Color can also add tremendously to a room. The days of the dingy, drab "schoolhouse brown" should be over. Modern schools are usually decorated in cheerful pastels—cool greens and blues for the warm, sunny side of the building, and warm orange and yellow for the cool, shady side. Whether the school has seen fit to brighten the walls or not, the teacher can add color through his own efforts.

The ingenious teacher can make even the dingiest classroom colorful. Displays on the tackboard, murals on the chalkboard, exhibits on the window shelf, all these and more can be called upon to lend life to the classroom. In classes which lack bulletin boards and display areas, teachers can extemporize. Perhaps the teacher can use some of the new adhesive devices to display pictures and posters directly against the wall. Perhaps he can run rolls of paper across a wall to create a display surface, or create a temporary tackboard from corrugated paper. Any table or desk can masquerade as a showcase. The possibilities for the ingenious and ambitious teacher are virtually unlimited and, with a little encouragement, the pupils will usually be more than willing to help.

One school suspends all classes for a day so that the entire effort of the student body can be devoted to cleaning the grounds and building. Is this time and effort justified?

A young teacher assigned to a particularly dingy classroom asked permission to suspend classroom activities in that room for a day so that he and the pupils could wash the woodwork and the windows, rearrange the furniture, and beautify the room in general. What might some of the arguments pro and con be for such activities?

Pictures are excellent for adding life to a room. Preferably, classroom pictures should be pertinent to the topic being studied. However, nothing should prevent the teacher from hanging a picture merely because it is beautiful or adds to the appearance of the room. A certain teacher of social studies used to make a hobby of collecting color prints of old masters. Partly for his own enjoyment, and partly as a method of instruction, he made it a practice to hang prints pertaining to the topics his world history classes were studying. He explained the pictures and their significance to his classes. These pictures, though not pertinent to mathematics, also added significantly to the mathematics classes which shared the classroom.

One can enhance the value of exhibits, displays, pictures, and other eye-catching materials by changing them from time to time. Variety and novelty in themselves tend to make a classroom brighter. Consequently, teachers should see to it that the materials on exhibit in their classrooms are of current interest. Even the plaster bust of Cicero and the monochrome of President Grant are not sacred and may be moved from time to time. Committees of pupils can be

formed to keep the exhibits up to date. A common device is to have such a committee as part of each unit to be studied. Of course, duties of this sort should be passed around the class. Although the pupils will need some guidance, they themselves can often collect, arrange, and display exhibits that the teacher would be hard put to match.

The classroom as a laboratory

The modern classroom is a busy place. Since pupils learn through their own activities, the classroom should be arranged as a laboratory of learning. To be a laboratory in this sense, a room must have many work areas and much material and equipment with which to work. In such a laboratory the teacher is blessed with all the tables, files, cabinets, cupboards, easels, exhibit cases, tackboards, chalkboards, and other equipment necessary to carry on a full, rich, varied program.

In one corner one should find a well-stocked classroom library for research and reading. Here books, magazines, reference works, texts and vertical files may be arranged for easy classroom use.

Other areas of the classroom may be similarly arranged for other purposes. The furniture should be movable so that the class can arrange it in rows to watch a motion picture or dramatization, or in a circle for a discussion, or in a hollow square to allow for an arena stage.

Improvising a classroom laboratory

Unfortunately, many classrooms are far from being classroom laboratories. Many have the seats bolted to the floor. Few have all of the equipment mentioned in the preceding paragraph. This fact, although unfortunate, should not discourage the teacher. Rich instructional programs can be carried on successfully in situations far from ideal. If the room has immovable furniture, an eager committee may be able to group together in one corner of the room, sitting sideways and backwards in the immovable chairs; they can gather round the teacher's desk, or worktable, or, if necessary, even move into the corridor. If one has no file cabinets, paper cartons can often be found which will hold quite a sizable collection of file folders. A coat of paint or a covering of wallpaper can make such home-made filing cabinets quite attractive. With a little ingenuity one can often improvise substitutes which, although perhaps not the best, will do

until something better can be obtained. Occasionally, the substitute turns out to be superior to the real thing.

In many schools, organization of classroom laboratories is a problem because one classroom must be shared by many teachers. This problem, however, is not insurmountable. The teacher who uses the classroom most should have priority, but all the teachers should share in planning the arrangement. If the teachers are reasonable and considerate, they should be able to agree on an arrangement satisfactory to all concerned.

Providing for adequate lighting

The classroom should not only be attractive, it should also be comfortable and conducive to good health. In this connection lighting is, of course, extremely important. In general, it is safe to say that a teacher will not be much troubled about lighting problems if he uses common sense. Still, it may be worthwhile to mention a few precautions about lighting.

The principal problem, as far as lighting is concerned, is to direct the light toward the pupil's work area so that it will be free from glare and shadows. No pupil should be seated so that he is directly facing a source of light. Nor should any pupil be seated so that his shadow falls on his work. To this end, boys and girls should sit so that the light comes over the left shoulder when they are writing. (This rule, of course, does not hold for left-handed writers; they should sit so that the light comes over the right shoulder.) Since brightness contrast seems to be one of the greatest causes of eye strain, the classroom should be evenly lighted and free from bright or dark spots. This is one reason that designers of school rooms have replaced blackboards with green chalkboards. For the same reason, the walls next to the windows in some schools have been painted white or a very light pastel. The teacher, of course, cannot do much about the decoration and construction of the room, but he can do much to reduce glare, shadows, and brightness contrast if he makes the most of the lighting, windows, and shades in the classroom.

The key to the problem seems to be to keep alert to what is going on in the classroom. On a bright, sunny day it is often necessary to draw the shades in order to reduce brightness and glare. If the sky should cloud over, it may become necessary to raise the shades and turn on the light on the far side of the room. As the day



The key to successful use of audio-visual aids is careful preparation. Here a teacher and a pupil get the equipment in order.



Effective teaching requires a variety of materials. In this art class the instructional materials are readily available for immediate use.

Busy pupils seldom cause discipline problems. These pupils are absorbed in a biology problem.



gets darker, one may have to turn on all the lights in the classroom to get enough light into every corner. To expect any teacher to be continuously alert to such changes is unreasonable, so the teacher should make it clear to his pupils that they should feel free to draw the shades, change seats, or make whatever other adjustments may be necessary if they are bothered by the lighting in any way.

Suppose you have an unruly class. Would you allow them to adjust lights and shades as they see fit? If not, what would you do?

College classrooms are quite often drab. Pick one that is particularly bare and plan how you might brighten it up even though you have no funds for this purpose.

Suppose one teacher wants the room set up as a classroom laboratory; another who uses the same room wishes the room to follow the traditional pattern. What would you suggest as a solution to this problem?

Heat and ventilation

Heat and ventilation are also important in making a class comfortable. Rooms which are too cold distract pupils' attention from their work. Rooms which are too hot slow pupils down. The ideal temperature is somewhere in the vicinity of 70° F. Sixty-seven to 73° seem to be acceptable. The teacher should check the thermometer from time to time to be sure that the classroom is within that range.

Usually one can do little about a cold classroom other than to complain to the office. However, if the room is too hot one can regulate the heat by adjusting windows or the heat valves. Of course, if one turns off the heat, one should be sure to turn it on again before leaving the room; discretion dictates that one should check to see if the heat is turned on before one complains about there being no heat in the classroom. Some schools have strict rules about teachers adjusting the heat. When this is so, the teacher should abide by them, as his interference may affect the heat in other rooms and also the amount of drain on the heating system.

The teacher should also attempt to keep the classroom reasonably humid. The desirable classroom humidity is about 50 per cent, but in the ordinary classroom, humidity is difficult to control. However, the teacher can take care to keep the air as fresh as possible and to prevent drafts. Stuffy classrooms are unpleasant; drafty ones are health hazards.

Flexible seating arrangements

Most modern schools are equipped with movable chairs rather than fixed furniture. This being so, the teacher should resist the temptation to place the furniture in serried ranks, as was done with the old fixed furniture. Although arranging chairs in rows has some advantages from a control and convenience point of view, it has relatively few advantages from an instructional standpoint. As a matter of fact, no classroom seating arrangement is perfectly satisfactory for all activities and all classes. The teacher should arrange the class according to the classwork the pupils are to do. For watching a movie, working individually, or listening to a lecture, some variations of the ordinary row set-up may be desirable; for committee work, small circles of chairs may be best; for a discussion, a circle or some segment of a circle may be suitable.

Some teachers like to seat the pupils in alphabetical order or with the larger pupils in the back. In the traditional class these practices may make the routine easier, but if one uses flexible methods, such plans are pointless. To let the pupils select their own seats is probably as good a plan as any. However, for at least the first few days, the pupils should keep the same seats so that the teacher can identify them by means of a seating chart.

Modern textbooks sometimes recommend placing the teacher's desk in the back of the classroom. This serves the purpose of removing the teacher from the front of the room and, to a degree, tends to make the class less teacher-centered. However, the position of the teacher's desk is not particularly important. The important thing is to arrange the entire room so that it will be useful and comfortable.

Some examples of possible class arrangements are shown on page 279.

Some teachers recommend breaking up boon companions, cliques, and trouble-makers by seating them so that they can not talk to each other easily. Others say this is a useless procedure and creates more harm than good. What is your opinion on this problem?

HANDLING CLASSROOM ROUTINE

As a general rule, classes will make better progress if the more usual tasks are routinized. Routines make it possible for boys and

girls to know what to do without being told over and over again. For instance, there should be no question about whether to write on both sides of a paper, or whether one should give his oral report from his desk or from the front of the room, for we *always* write on only one side of a sheet and we *always* give oral reports from the front of the classroom.

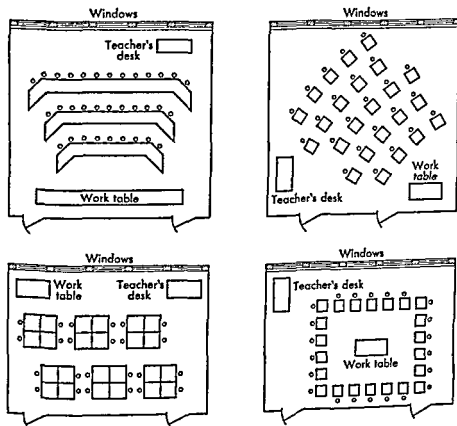


Figure 10. Diagrams of Possible Room Arrangements.

Time is critical in any class. Routinization of housekeeping activities is an effective way to save time. The more time we can save for active instruction the better. However, too much routinizing can lead to boredom and loss of interest. Perhaps a good rule is to routinize as many of the administrative and management aspects of the classroom as possible but to leave the instructional activities free from routine.

Routinization can be applied to such administrative matters as attendance, tardy slips, and excuses. In handling these, the teacher must, of course, carry out the school regulations. However, in order to save time and interruptions, all of this work should be completed before the class starts. Attendance should be taken by some quick method such as noting the unfilled chairs. Calling the roll is a time-wasting procedure. In order to take attendance quickly it is usually a good practice to have pupils start off at the beginning of the class in their assigned stations, even though they are to move to other work stations later.

In order for the class to get started with a minimum of confusion, the teacher should routinize the issuing of equipment and materials. The issuing of papers and books can often be delegated to pupils. Before the class starts, materials to be used during the period should be ready for instant distribution. A good device to ensure a minimum of confusion is to list on the board those things which will be needed during the various periods. Thus the pupils can equip themselves with the necessary materials without asking a single question. A similar routine can be set up for putting things away at the end of the period. In some classes one will want to routinize the collection and distribution of pupil papers. This is usually done by passing the papers to, or from, the ends of rows, or to the head of the table. However, in a classroom laboratory perhaps a better way is to circulate unobtrusively about the class and to collect or distribute the papers without interrupting the pupils' work.

One should never allow one's class to become a slave to any routine, but if one must do certain tasks again and again, a properly used routine can make the class more efficient and pleasant.

ADMINISTRATIVE DUTIES

Administrative procedures

Administrative procedures are designed to aid instruction and to make life more pleasant in the school. By following these procedures, the teacher can usually make things easier for everyone. Occasionally, administrative details become somewhat oppressive and at times downright ridiculous. These are the exceptions that prove the rule. In any case, the teacher has no choice; if he is to do his job properly, he must follow administrative procedures exactly.

Preparing paper work

Many of the teacher's administrative duties come under the heading of paper work. It takes a considerable amount of paper work to run a school; teachers sometimes think there is too much of it. Just a few of the forms on file at the University of Hartford Curriculum Library indicate the amount of administrative paper work—attendance reports, absence reports, book inventories, book lists, book requisitions, cafeteria forms, conference reports, custody requests, and detention slips. However, if budgets are to be prepared, materials of instruction to be purchased, pupils to be accounted for, teachers to be hired and paid—in short, if school is to keep at all—teachers must be prepared to do their share of paper work.

The secret in dealing with paper work is to do the job carefully and to do it on time. Properly submitted reports filed in plenty of time endear the teacher to the administrative staff, particularly if nothing is omitted from the report or form submitted and all the information is accurate and exact.

Preparing requisitions

A case in point is the requisition. A requisition should state exactly what is wanted in such a way that there can be no mistake. Vague requests such as "a cupboard for the music room" are almost useless to the purchasing agent. When he receives such requests, he must either send the requisition back for further information or try to guess what the teacher has in mind. In either case, if the purchase is delayed or the wrong material ordered, the basic fault lies with the teacher, not with the principal or purchasing department.

When requesting the purchase of an item, it is best to give an example of exactly what you want by giving a catalog reference. A catalog reference explains what you are talking about and also enhances your chance of getting exactly what you want rather than something "of equal quality."

Not only should requisitions be accurate and specific, they should also be on time. One late requisition may hold up an entire program. There is always a time lag between ordering and receiving supplies. Furthermore, some items are in short supply. So, if one wants something, one should requisition it early. Many of the best films, for example, are booked solid for months in advance; if the

teacher does not request them early, he should be prepared to substitute some other activity.

Keeping accurate records

Among the duties involving paper work is the keeping of records. Records accounting for pupils and their attendance, and records accounting for equipment and supply, are essential to the running of the school. Without them money, time, and equipment would be lost. Usually the amount of record-keeping involved is relatively small if one keeps his records up to date. However, if one neglects one's records for a time, putting them back into proper shape can become quite a job. The solution, of course, is not to let the recording get ahead of you.

Keeping accurate inventories

One should inventory one's books, supplies, and equipment from time to time. The school frequently provides the forms and sets the time for inventories. In some classes, however, the teacher must maintain a running inventory to ensure keeping proper amounts of material on hand. When inventorying books and equipment, one should note the condition as well as the presence of each item. The key to maintaining a running inventory is, as in any other kind of record-keeping, to keep the records up to date. When something is removed from stock, it should be noted at once. Otherwise, the records will become incorrect. Remember that if your records say you have plenty of HCl, when the bottle is actually empty, your classes may suffer.

Keeping personnel records

Particularly important are records which deal with pupils. Pupil records must always be filled out accurately in fairness to the pupil and to other teachers. In fact, the accuracy of some records such as those having to do with attendance may have importance which transcends the classroom.

In some states pupil accounting is done through the daily register. The school office maintains the register in some school systems, but many systems require that the teacher keep the register for his own class. In the register one can usually find such information as:

1. Name and address of each student.
2. Age as of a particular month and birthdate.
3. Name and occupation of parent or guardian.
4. Daily attendance record of each student (absence, dismissal, tardiness).
5. Average and aggregate attendance (monthly, semester and yearly).

Keeping this record properly is particularly important because of legal implications and because state financial grants may be based upon such records. To illustrate the importance of these records, one need only say that in some systems the teachers do not receive their June checks until the register is turned in properly filled out. As with other records, daily attention to detail is the only way to ensure accurate pupil accounting.

What legal complications could result from an improperly filled out register?

What materials and supplies would you need to keep records of in your classes?

What pupil personnel records would you expect to work with as a teacher?

The teachers' manual

The preceding paragraphs have mentioned only a few of the administrative responsibilities of teachers. There are many more. Early in one's career one should make a special effort to learn the administrative procedures of one's school. The regulations and directions for the various administrative tasks may often be found in the teachers' manual or handbook. Study the manual carefully before you attend your first class. If the school does not furnish a manual, make one of your own. When in doubt of what your procedure should be, consult the principal. Doing so may save you much embarrassment, confusion, and delay.

SUMMARY

To many teachers housekeeping has a particularly disagreeable connotation, but careful housekeeping is necessary in the well-run classroom. Since uncomfortable boys and girls do not learn well, the

teacher should take particular care to make the classroom as pleasant as possible physically. To do so, he must pay particular attention to heat, lighting, and ventilation, as well as the room's appearance.

The efficient classroom is usually a flexible one. Probably no particular room arrangement of the furniture is the best arrangement. The classroom should be a laboratory for learning, replete with all the supplies and equipment necessary and adaptable to any of the activities one can reasonably expect.

The careful planning of routine activities can help speed the learning process. The competent teacher will consider routinizing any activity which is repeated day after day, such as paper distribution and collection. However, one should not allow routinization to become a fetish or let it interfere with effective instruction.

Administrative functions are also necessary for good housekeeping. By using meticulous care and promptness in handling administrative duties, the teacher will help the entire school to run more smoothly.

FOR FURTHER READING

- Burton, William H., *The Guidance of Learning Activities*, Appleton-Century-Crofts, Inc., New York, 1952, pp. 694-703.
- Grambs, Jean D., William J. Iverson, and Franklin K. Patterson, *Modern Methods in Secondary Education*, Revised Edition, The Dryden Press, New York, 1958, Ch. 12.
- Risk, Thomas M., *Principles and Practices of Teaching in Secondary Schools*, Third Edition, American Book Company, New York, 1958, Ch. 20.

The teacher and extra-class responsibilities

Although the teacher may think that the multitudinous tasks and responsibilities of classroom teaching are quite enough, his work is not limited to the classroom. It also includes extracurricular responsibilities, guidance functions, and, as we have seen, administrative duties.

THE TEACHER AND THE EXTRACURRICULUM

The importance of the extracurriculum

In a real sense the extracurriculum is part of the curriculum. To be quite accurate, extracurricular activities should be thought of as variables in a constants-with-variables program, or, to use less technical terminology, as elective parts of the total educational program. The skills, concepts, and attitudes learned through such activities may be fully as valuable as those gained in formal courses. If these activities deserve a place in our school programs, each teacher must expect to contribute to the extracurriculum in some way.

In some schools extracurricular activities are held during the school day as activity periods; in others they are held in after school hours only. Can you justify giving up school time for extracurricular activities?

Conducting extracurricular activities

Conducting extracurricular activities is much the same as conducting any other learning activity. The principal difference between extracurricular activities and class activities is that the coercive element is removed. Because of this lack of coercion, most pupils in an extracurricular activity are there because they want to be. Thus extracurricular activities afford unusual opportunities for utilizing natural motivation and interest.

On the other hand, since there is no coercion, activities which do not appeal to pupils are doomed to a marginal existence if not to extinction. Such activities should be dropped in favor of activities which the pupils want. An extracurricular activity which seems wooden to the pupil certainly has no reason for existing.

This fact imposes an increased burden for leadership on the activity sponsor. The appeal of any activity often depends upon the way the activity is conducted as much as on the activity itself. Good leadership and good planning have made more than one faltering extracurricular activity a success in every sense of the word.

The qualities of leadership

How does one provide good leadership for extracurricular activities? Having the right kind of personality certainly helps. Adams and Dickey¹ list the following fifteen "attitudes of a good sponsor." They say that the list is "not all-inclusive." Perhaps you can find other attributes to add to the list.

1. Vitality in guiding and directing the activities of boys and girls.
2. Enthusiasm and ability to create enthusiasm for others' own interests.
3. Tact in associating with boys and girls to prevent familiarity, but to maintain their confidence and respect.
4. Interest in many things.
5. Ability to get along well with people.
6. Awareness of problems of social living.
7. Desire to associate with boys and girls.
8. Adaptability in being able to change carefully made plans as needs arise.

¹Harold P. Adams and Frank G. Dickey, *Basic Principles of Student Teaching*, American Book Company, New York, copyright 1956, pp. 230-231. Quoted by permission of American Book Company.

9. Ability to guide without domineering.
10. Possession of a sense of humor.
11. Possession of ability and/or training in the area of at least one activity.
12. Acceptance of all boys and girls regardless of personal attractiveness or social position.
13. Understanding and appreciation of the needs and problems of pupils.
14. Resourcefulness and interest in exploring new and different fields and problems.
15. Ability to derive satisfaction in pupil accomplishment, rather than from results of one's own efforts.

In what ways do these attributes differ from the attributes of successful classroom teachers? What attributes are more necessary for good classroom teachers? For good sponsors? How can prospective teachers develop these attributes?

Planning extracurricular activities

It takes more than personality to lead an extracurricular activity well. As in any other teaching, planning is the key to success in conducting an extracurricular activity. In some extracurricular activities the planning can be done informally. By their very nature many extracurricular activities lend themselves exceptionally well to teacher-pupil planning. Club activities are especially suited to such techniques. But in no activity can this phase be skipped if the activity is to be successful for very long.

Pupils, as a rule, need help in planning extracurricular activities. Usually the pupils are eager to do things well, but they need to be shown how. Consequently, the teacher must coach the responsible pupils in their duties and help them evolve proper plans. For instance, club officers usually need to be taught how to conduct meetings, and school-paper editors need to be taught how to edit and proofread. Moreover, the teacher may need to suggest things for the pupils to do. Boys and girls, because of their lack of experience, seldom have enough ideas concerning the things they might do to make their program successful. Part of the sponsor's task is to fill in the gap.

Not only does the teacher need to help with ideas, but he must help the pupils set up criteria of excellence by which to judge the ideas and to maintain high standards. A case in point is the selection

of a play for production. At times, youngsters are tempted to select a hackneyed farce with no literary merit whatsoever. They can usually avoid this pitfall if they work out standards of excellence before reading the plays. Extracurricular activities should always be of high caliber.

At the same time, the teacher must keep the pupils from attempting more than they can manage. The enthusiasm of youth often bites off more than it can chew readily. When the teacher thinks the pupils are considering a project that will be too much for them, he should warn them. A good method for doing this is to consider the possibilities and probabilities in a group discussion early in the planning. However, one should not be too quick to condemn plans as being too ambitious. Condemning the plans may raise the hackles of the planners; besides, the things pupils can do, when they really want to, is amazing.

Because of the audience appeal of these activities, many communities have come to demand almost professional standards. In such schools great pressures are placed on the coach or director and the pupils. While high standards are always desirable, they should not be maintained at the expense of the total educational program or the needs of the boys and girls. When any extracurricular activity interferes with the total educational program of the school, it is time for a change.

CRITERIA FOR PLANNING EXTRACURRICULAR ACTIVITIES

In planning any extracurricular activity, the teacher should bear in mind one criterion above all others: schools are maintained by our citizens for the education of youth. This being so, all school-sponsored activities should be learning activities. It is not the schools' business to entertain the populace, nor to provide recreation for boys and girls. These worthwhile activities are the province of other agencies. This does not imply that the schools should ban all recreational activities, nor eliminate sports. However, each activity which the school sponsors should lead toward some goal appropriate to the purposes of the school. If any activity as planned leads to no such purpose, it has no place in the school, and should be dropped or changed. In other words, a dance for purely recreational purposes is probably not a proper school activity, but a dance whose

purpose is to develop the social graces in boys and girls has its place, providing that it is expressly arranged for that purpose.

Another criterion is that the pupils should feel that the activities are worthwhile. Pupils quickly drop out of activities which are not worthwhile. Even such high prestige activities as football suffer from this. In order for an activity to be really successful, it must have high intrinsic value or important incentive. True cooperative planning is one way to ensure such value. In extracurricular activities it should be utilized to the utmost.

The teacher's role in the extracurricular activities

The job of the sponsor or coach is to guide or direct the pupils as they conduct the activity. Delegation of responsibility is an important key in the guidance of any extracurricular activity. Guidance implies helping pupils over the hard parts by advising them on what to do and showing them how to do it. It also implies checking up on the pupils to be sure that they are carrying out their responsibilities properly. If the activity is a good one, group pressure can usually be counted on to help force "do-nothings" to produce. In any event, the principal duties of the sponsor, once the plan has got under way, are to see to it that the right assignments get to the proper persons, to help the pupils where they need help, and to keep checking to see that things are done and done well. If, in doing all this, the sponsor can keep in the background, so much the better.

In certain types of extracurricular activities, such as theatrical productions, athletics, and musical performances, the sponsor may have to accept a more important role in planning and direction in order to maintain high standards of performance. However, in such activities the sponsor does not need to become the dictator some teachers appear to be. The pupils can be of real help in planning such activities cooperatively. Still, if the pupils are ever to have the thrill of really first-class performance, much of the planning and direction must be assumed by the sponsor, director, or coach.

Who should participate in the extracurriculum?

The answer to this question is *everyone*. Schools are provided to educate everyone enrolled. Therefore all school activities should be open to all boys and girls. Each pupil should be given a chance to participate, enjoy, and exploit his interests to the best of his

ability. Of course, certain extracurricular activities require skills and abilities that some pupils do not have. After a fair trial these pupils may be guided into some other activity, or perhaps some other job within the same activity. For instance, the boy who cannot hit the basket will not add much to the basketball team as a player but may make a good manager or publicity agent; similarly the girl whose dramatic ability is nil but who is good at make-up can find an important place in the dramatics club.

This principle of making extracurricular activities open to all has been most seriously violated in school social activities. There is no room in the school for activities which bar boys and girls on the basis of social position, class, or wealth. Junior proms, sororities, clubs, and parties which require a considerable expenditure of money by pupils cannot be justified in a public high school because the expense automatically rules out participation by the less wealthy pupils. Equally out of place are secret societies, fraternities, and sororities whose membership is determined by social favor and secret ballot. Such activities do not belong in the program of the modern secondary school. The sponsor should guide the pupils into desirable social habits and see to it that no pupil is barred because of wealth, race, religion, or social status of any kind.

The danger of overparticipation

While it is true that every pupil should be allowed to pursue his interests, many pupils must be protected from overparticipation. Even for teen-agers the day is limited to twenty-four hours. To do all the things some high-school youngsters attempt to do is impossible. Many youths spend so much time and energy on the extracurriculum that they have little or no time left over to spend on their classwork. To prevent these pupils from attempting too much, it may be necessary to limit their participation in extracurricular activities.

Besides causing pupils to neglect their studies, individual overparticipation in extracurricular activities tends to limit participation to a relatively small group of pupils, thus preventing other equally talented pupils from participating. In particular, the positions of leadership are frequently monopolized by a small group of pupils. Such situations are common because both teachers and pupils tend to select those who have already shown themselves willing and able. Properly guided, extracurricular activities can involve many young-

sters in positions of trust, responsibility, and leadership, thus developing these qualities in a larger part of the student group.

Use of point systems

In some schools individual overparticipation and concentration of the choice positions are prevented by the use of a point system. Under this plan each extracurricular position is allocated a number of points: e.g., student council president, 12 points; class president, 10 points; newspaper editor, 10 points; football player, 8 points; member of the science club, 1 point. Each pupil is permitted to carry only a certain number of points during any school term. If the maximum number of points were set at 25, for example, a boy who was both president of the student council and editor of the school paper would not be permitted to hold another major office.

Other ways to avoid overparticipation

Limiting overparticipation by point systems and similar devices is usually a matter of over-all school policy. When such policies do not exist, the teacher needs to find some other way to distribute the honors among the pupils. Rules forbidding leaders to succeed themselves, vesting control in an executive board with a revolving chairmanship, and similar arrangements may be helpful. Delegating responsibilities is another way to involve more pupils.

What do you think of point systems? Would you agree with the point allocation for the above positions if 25 points are to be the limit? What values would you recommend?

What would you do to make sure that all boys and girls had an opportunity to participate in the extracurriculum?

Business management

The business management of any pupil organization should be carefully supervised by the teacher. Usually the school will have explicit procedures for the collecting, expending, and accounting of money. These regulations should be followed to the letter. Carelessness in this matter can lead to considerable embarrassment and to outright financial loss. Even though pupils may collect the money and a pupil treasurer may be charged with keeping the books, the teacher cannot escape his responsibility for safeguarding any funds in the treasury.

Money for extracurricular activities may be obtained in several ways. An allocation may be requested from the student council or some other central agency upon the basis of a budget, or money may be raised through membership dues or fund-raising projects. In general, one should keep dues and fund-raising campaigns to a minimum. Dues may embarrass some pupils; fund-raising campaigns may take too much of the pupils' time, besides being a source of annoyance to the people who contribute the money. In any case, before venturing on such a project, the sponsor should get the principal's permission. In fact, soliciting the principal's advice on all matters concerning the financing of extracurricular activities is a wise precaution.

Ordinarily, all money is placed in the hands of the school treasurer. To leave cash in teachers' desks or pupils' lockers is very risky. In order to ensure proper accounting, most schools insist that all payments be made by check by the school treasurer on presentation of suitable vouchers by the officers and sponsors of the activity. The wise sponsor has as little to do with cash as possible, and is very careful to stick to the letter of the law as far as money matters are concerned.

Suggestions concerning handling money

Most sponsors must handle money at one time or another. Consequently, a few words of precaution may be advisable.

1. Set up a system of accounting for funds before collecting any.
2. Give receipts for all money received. Be sure to keep a duplicate or a stub.
3. Record all transactions immediately.
4. Deposit all funds with the school treasurer, safe, or bank immediately after receiving them. Get a receipt.
5. Do not keep money in your desk or on your person.
6. Do not keep school money with your personal money.
7. Do not commit the school or extracurricular activity to any indebtedness without official approval.
8. Do not authorize payments of any bills until they have been approved.
9. Do not pay any bills by cash. If possible, always pay by school check. Be sure to get receipts for any payments made.
10. Always follow to the letter school regulations concerning handling of funds.

THE TEACHER AND THE GUIDANCE PROGRAM

Every teacher a guidance worker

Every teacher's job includes guidance duties. If he does no actual counseling or homeroom guidance, he should cooperate with the persons charged with such responsibilities. If he teaches in a school which, as yet, has no specialized guidance personnel, he will undoubtedly have to perform some of the duties ordinarily assigned to the specialist. No matter what he teaches, the good teacher finds it necessary to guide pupils in his class in ways not included in the course of study. Every teacher should contribute eagerly to the guidance program, for it can be extremely helpful to him and his pupils. As a matter of fact, the functions by which a classroom teacher contributes to the guidance program are pretty much what a good teacher would expect to do anyway. Since there is a trend toward broadening guidance activities in the secondary school, new teachers will be more and more likely to find guidance duties formally recognized as part of their assignment. But whether there is a guidance program or not, the good teacher will engage in many guidance activities as part of his normal teaching responsibilities.

The guidance program

What, then, is the guidance program? It is not, as many people seem to think, designed to provide a place where troubled souls can go to have a counselor solve all their problems and make their difficult decisions for them. Rather, it is a program designed to help pupils to understand themselves and to direct their own lives more efficiently. At the same time, the guidance program attempts to provide the information necessary for efficient teaching of each individual and for improvement of the total school program. Through the guidance program the school tries to help each pupil shape for himself a fuller, happier, more useful life. The complete guidance program provides the following services: individual inventory service; occupational and educational information service; counseling service; placement service; and follow-up service.²

These services are not separate offices or departments of the guidance program. In actual practice, no formal distinction is made

²Harold Mahoney, "The Guidance Program Bulletin 45," Connecticut State Department of Education, 1918, pp. 19-28.

between the services. Many guidance workers engage in all the services daily, and would be hard put to tell when they are providing one service or another. These services are much the same as those the teacher uses in his teaching, but much amplified in scope.

The individual inventory service includes all the data-gathering devices and records by which the school gets to know the pupils. Included in this service are the cumulative records, anecdotal reports, health records, reports of home visits, intelligence and other psychological test scores—in short, all the information the school has been able to gather about the pupils. To gather this information the guidance workers use the same devices that teachers use to learn about pupils in their classes, plus data from other sources not readily available to the classroom teacher. The data gathered through the individual inventory service are used as a basis for counseling by the guidance workers, and are made available to teachers for use with their pupils.

The occupational and educational information service is a repository for information of all sorts. In addition to occupational and educational information, this service might also make available information about oneself, collected through the individual inventory service, boy-girl relations and extracurricular opportunities. Information is frequently stored in open shelves, so that shy or embarrassed pupils may look things up without "bothering" anyone. Also, trained guidance personnel suggest references to guide the pupil to the information he desires.

The counseling service is the heart of the guidance program. By means of counseling, the guidance workers do most of the actual guiding. We shall discuss this aspect of the guidance program more thoroughly later in the chapter.

The placement service attempts to place boys and girls in their proper niches in the curriculum, the extracurriculum, and in post high-school activities. This service has long been a function of the school.

The follow-up service tells us how well our school programs have succeeded and helps us prepare to do a better job for pupils to come. By following up one can check on the success of counseling or therapy for individual pupils. From follow-up studies of the school's graduates, one can examine the effectiveness of the curriculum in whole or in part. A study of graduates might show whether

the college-preparatory or business curricula are sufficiently effective and, if not, in what ways they might be improved, for example.

The foregoing paragraphs should make clear that the guidance program is not fractionalized into special types of guidance. One no longer thinks of educational guidance or vocational guidance; one thinks of guidance. Educational and vocational guidance are not special types of guidance; they are different aspects of guidance. Similarly, the five pupil-personnel services should not be thought of as separate functions but as different facets of the guidance function.

In what ways does guidance differ from teaching?

What contributions might you as a teacher make to each of the guidance services?

Of what value are the guidance services? If you were asked to prepare a defense for including a guidance program in your school, what would your arguments be?

The teacher and the guidance program

The guidance program helps the teacher in many ways. In the first place, it can provide the teacher with information which enables him to know the individual pupils better. The teacher, of course, can gather considerable information himself. However, by means of its specialized techniques and trained personnel, the guidance program can provide the teacher with information he otherwise could not obtain except at great cost. Furthermore, information can often be collected more effectively through the guidance program, and the teacher is left with more time to devote to other matters.

The guidance program can also help the teacher with difficult pupils and their problems. Through the use of his specialized resources, the guidance worker can often find the cause for the difficulty and help resolve the problem. Sometimes he can do this quickly. Usually, however, the problems given to guidance workers are not easy to solve; they often involve changing habits and attitudes that the pupil has taken years to develop. Therefore teachers should not expect quick results. It is more realistic to look for long periods of slow improvement. Patience, cooperation, and understanding should be the watchwords in the teacher's relationship with the guidance worker for they both need the other's help and support.

Teacher contribution to the guidance program

Ever since the first Neanderthal artist selected boys as apprentices for his trade, teachers have been performing guidance functions. That today's teacher should continue to do so is not surprising. Most teachers contribute to the guidance program in a large measure. Undoubtedly, the best contribution a teacher can make is to teach well. But he can also help in other ways. Even if the school did not ask them to, most teachers would perform guidance functions anyway.

One way teachers contribute is by acting as the eyes and ears of the guidance program. Because of their strategic position in the classroom and in the extracurriculum, teachers have opportunities to gather much information not available to the guidance specialist. The teacher can often spot pupils who need counseling on specific problems long before the guidance worker would ordinarily see them. By reporting this information via the anecdotal record or similar reports, the teacher can greatly increase the efficiency of the guidance program.

Once the guidance person is working with the pupil, the teacher can help by cooperating with him. In fact, guidance specialists can do their best work through the classroom teachers. This is obvious if one realizes that guidance workers can spend only short periods with individual pupils, whereas teachers spend considerable time with them. A teacher's sympathetic understanding of the pupil and cooperation with the guidance worker may make the difference between the success or failure of the program. Lack of cooperation may undo all the good that the counselor has achieved. The competent teacher cooperates with the guidance person 100 per cent; this pays dividends.

The teacher as a guidance worker

Teachers sometimes play a more formal role in the guidance program. Although it is difficult to conduct a satisfactory guidance program without an adequate supply of specialized guidance counselors, the trend seems to be toward pressing classroom teachers into the counseling service either as teacher-counselors or as teachers who counsel. The reason for this trend is partly economic. It seems nearly impossible for any school system to provide a sufficient number of guidance specialists to do all the counseling. Certainly the poorer school systems have not been able to do so; in fact some of them

have no trained guidance personnel at all. In many schools one can expect the brunt of the counseling to fall on the classroom teacher or the teacher-counselor. Since this may be the beginning teacher's lot, let us consider some of the methods and responsibilities.

The guidance worker tries to help boys and girls make the most of their lives and their opportunities. The role of the guidance worker is not to play God, but rather to help boys and girls help themselves. This is not an easy thing to do and it takes a person with certain qualifications to do it well. To live up to these qualifications the guidance worker should:

1. Recognize his own abilities and limitations to counsel and guide.
2. Be familiar with the techniques appropriate for guiding individuals and groups.
3. Be able to apply appropriate principles of guidance and counseling.
4. Observe the confidential nature of the counseling and guidance process.
5. Be able to administer and interpret various types of tests.
6. Establish and maintain effective relationship with parents.
7. Recognize the ability range of the individual pupil.
8. Integrate the work of the individual pupil with the school's entire program of guidance.³

Among the qualifications for the guidance worker, as one can see from the list above, are certain skills. The next few paragraphs briefly discuss some techniques used by guidance workers. The first of these is the interview.

Conducting guidance interviews

The interview is perhaps the most important tool with which the guidance counselor works. It is through the interview that the counselor actually does the counseling. It is the heart of the guidance program. Some pupils require frequent interviews, while others require few. However, all pupils may need more help than one sometimes thinks. The secret is to make oneself available. The guidance worker should practice the open-door policy. No pupil problem should be too trivial for his attention. Questions trivial to the teacher may seem all-important to the pupil. A sympathetic, unhurried hear-

³ Gilbert C. Kettlekamp, *Teaching Adolescents*, D. C. Heath and Company, Boston, copyright 1954, p. 361. Quoted by permission of D. C. Heath and Company.

ing of the pupil's story may well lead to ready identification and solution of the pupil's problems.

The interview is really a place for the pupil to talk. Merely talking out his problems is frequently good therapy. In order to create the atmosphere of permissiveness, some authorities advocate that the teacher must accept everything the pupil says. The key, they say, is to accept the pupil for what he is—a person, perhaps a troubled person. The counselor, they maintain, should never sit in judgment on the pupil, for to do so may disrupt the rapport or end the interview permanently. They further maintain that the counselor should never advise the pupil what to do.

That the counselor should suppress himself so completely is doubtful. There seems little point in conducting interviews if nothing ever develops. If the interview is to amount to anything, the counselor sooner or later should give it some direction. He should probably direct the interview toward discovery of the pupil's real problem and what can be done about it. Skillful use of questions can accomplish this. The teacher, as well as the counselor, can help the pupil draw his own value judgment. Surely it is ineffective to force our own values and advice on a pupil; but, just as surely, it is ineffective and probably immoral not to try to help the pupil find the answers to his problems and to help him achieve higher values.

In the interview, if the counselor is really to be of help, he must have information about the pupil at his fingertips. If possible, he should study each case before the interview. He should also have available a wealth of information about the school, its curricula and extracurriculum, and other matters to which the interview may lead. If he can supply the pupil with immediate information in answer to his questions, so much the better. If the pupil requires information that the counselor does not have, the counselor should find it if at all possible. At times, of course, he can merely direct the pupil to the information. The object is always to help the pupil to a better understanding of himself, his problems, and his potentialities so that he can make wise decisions and judgments of his own.

What career to follow and what educational program to pursue are among the problems that are of real concern to youth. To get at these problems, the pupil must know what his goals and potentialities are. Frequently he has no idea. When this is so, the

counselor may have to pry the pupil's goals out of him and give him information by which he can appraise his resources and the avenues open to him. The decision should be the pupil's, not that of the guidance counselor. No guidance counselor has a right to advise the counselee in the direction he should go; his job is to show the pupil the facts so that he can understand himself and make his decisions accordingly.

In what ways can you as a teacher contribute to the guidance program?

To what extent should a counselor advise a pupil?

How much direction should the counselor give during an interview?

Group guidance and homeroom guidance

Group activities can often be used to give pupils guidance information. Some schools have formed special classes in "guidance" or "group guidance." Others make group guidance a part of the core program. Some schools turn group guidance over to the homeroom teacher. Examples of group-guidance activities are career days, units on occupations, field trips, and orientation programs. Even student handbooks are instruments for group guidance.

Group guidance is, of course, a teacher function. Its purpose is to provide pupils with information they need to understand themselves, their potentialities, and their opportunities. In effect, group guidance is instruction. It differs in no way from other instruction except that in group guidance pupil-centered classes are much more essential than in classes in other subjects.

Homeroom guidance is likely to be a combination of group guidance and counseling. The teacher is responsible not only for teaching group guidance in homeroom periods, but also for counseling his homeroom pupils. In some schools the administration gives the teacher the same homeroom group for several years so that the teacher and pupils may learn to know each other better. In such a system the homeroom teacher becomes a teacher-counselor responsible for the total guidance program of his homeroom pupils.

Referral of difficult cases

Teacher-counselors, homeroom teachers, and other teachers are usually not guidance experts, although many approach this status after a few years of experience and training. They cannot, however,

be expected to handle all the guidance problems which may come their way. When problems of a difficult nature come up, they should be referred to the proper person. Usually this person is the guidance specialist in charge, or, in smaller schools, the principal.

In general, teachers should not be too hasty in referring cases to the professional guidance persons. Hasty and frequent referrals may undermine the pupils' confidence in the teacher's abilities. On the other hand, the teacher should not hesitate to refer any case in which he does not feel competent. Certainly he should refer every case in which he suspects serious difficulty or difficulties beyond his scope, such as medical or serious psychological problems. Whenever the teacher feels that the pupil needs more than ordinary help, he should refer the pupil immediately. It is far better to refer too often than not to refer often enough. As was pointed out earlier in the chapter, the teacher is in a strategic position to spot incipient troubles of all types. He should attempt to develop a sharp eye and report such cases early.

OTHER PROFESSIONAL RESPONSIBILITIES

Responsibility for the school program

Teachers are taking a greater share in developing the school program. Many functions formerly conducted by administrators are now handled by faculty committees. Typical of the type of faculty committees found in modern schools are curriculum committees, textbook committees, handbook committees, and committees on reporting to parents. You will undoubtedly find yourself on a faculty committee sooner or later. When this happens, you should welcome the opportunity. Through committee work you may be able to make real contributions to the welfare of the school, its program, and its pupils. In fact, sometimes one's contribution to committee work may have an effect more far-reaching than one's classwork. It is through committee work that the individual teacher can influence the entire school program.

Young teachers have a rather anomalous position on committees. Being new and untried, they should not be too forward until they are accepted by their older colleagues. On the other hand, it is not quite a case of being seen but not heard. As a recent graduate from a teacher education program, the new teacher may

have up-to-date information and ideas new to his older colleagues. The answer is to do your part willingly and eagerly in a tactful, pleasant way. Do not thrust yourself and your ideas on people, but do your best to be helpful.

What is true of committee meetings is also true of faculty meetings. Many teachers regard faculty meetings as a bore and a nuisance. Too many of them are just that, but most modern administrators attempt to make faculty meetings purposeful, interesting, and worthwhile. Many of them are work sessions devoted to solving school problems. The young teacher should pitch in and do his share.

Supervision of pupils

A type of activity which one may not think of as administrative is the supervision of corridors, washrooms, lunchrooms, and detention halls. Frequently these duties can be handled fully as well by personnel other than teachers. In some secondary schools much of this monitoring and supervision is done by pupils. When this is the case, these activities can sometimes become learning activities. If professional teachers are to supervise corridors and lunchrooms, ideally they should take steps to see that learning takes place in these facilities as well as in the classroom. What better place is there for learning table manners and the social amenities than in the lunchroom?

Responsibility for pupil safety

Since the pupil is in the school's jurisdiction for a long part of the day, it follows that the teachers must assume the responsibility for the pupils' health, safety, and well-being during that period. Prevention is the first step in carrying out this role. Teachers should see to it that boys and girls know how to use properly the equipment they work with, and that they abide by the safety regulations when they use it. Furthermore, teachers should prevent pupils from taking unnecessary risks when in the classroom. For example, in one science class the teacher wished to use the film-strip projector. As luck would have it, when she started to pull the blackout curtains to, the curtain cord jammed so that she could not move the curtains either way. A gallant youth jumped to the rescue and climbed up on the window sill to untangle the cord. This was a foolhardy thing to do, because the boy might have fallen. In the interest of safety, the

teacher should have forbidden him to climb on the window sill, and sent him for a stepladder instead. Teachers are responsible for seeing to it that boys and girls do not violate the rules of safety within the school or on the school grounds.

Preparing for emergencies

In spite of all precautions, emergencies sometimes occur. Then the teacher must be prepared. Early in the year he should learn what the school's policies and procedures are in case of emergencies. For instance, how can one get a doctor in a hurry? How does one sound the fire alarm? Where does one go for first aid? To find out what to do when the emergency happens may be too late. The competent teacher is prepared for emergencies. If he works in a subject in which accidents are liable to happen, he should be well skilled in the emergency procedures necessary for handling accidents of this type. All teachers should be well skilled in emergency procedures in general. Usually the school's policies and instructions concerning emergencies can be found in the teachers' manual. The teacher should study the pertinent sections early in the year.

An important part of one's preparation for an emergency is to make it a point to learn about any unusual health or safety problem before the emergency occurs. For instance, if the teacher has an epileptic in his class, he should know it so he will be prepared in case the pupil should have a seizure. Similarly, the teacher should be aware of any pupils who are crippled or lame so that special provision can be made for them in case of fire.

Fire drill is one of the most important ways to prepare for an emergency. It is serious business and should be treated accordingly. The teacher should make a special effort to ensure that each of his pupils knows what to do in the fire drill. He should also make an effort to impress upon pupils the seriousness of fire drills and see to it that the drill is carried out meticulously with no nonsense.

What precautions might you take for the safety of a pupil who is wearing a walking cast? What about such pupils during fire drills?

How might you make good learning experiences out of safety measures and corridor and lunchroom supervision?

To what extent should you, as a beginning teacher, enter into committee work?

Reporting the emergency

An important aspect of the emergency procedures which teachers sometimes forget is to report the emergency immediately to the proper authorities. Although in the excitement of a genuine emergency this report may have to wait a while, the teacher should take the first possible moment to tell his superiors exactly what happened, what caused it to happen, and what was done about it. Usually the procedure for reporting emergencies can be found in the teachers' manual. Quite often all that is necessary is to notify the principal. In any case, the teacher should make his report speedily and accurately. Not to do so can lead to administrative, and even legal, complications of all sorts.

SUMMARY

Although subordinate to actual instruction, extra-class responsibilities are a necessary part of each teacher's load. High on the list of his responsibilities are extracurricular activities. Just as much as class activities, extracurricular activities are learning experiences. Like any other learning experiences, they deserve careful planning and handling. However, the pupils should have a large share in planning and conducting them.

The guidance program provides services by which the pupil can get help with his problems. This program can be a great boon for the classroom teacher. From it he can get information and help which should make his teaching more effective. In return, the teacher can make substantial contributions to the guidance program, since he is often the staff member closest to the pupil.

Other professional responsibilities, whose importance should not be minimized, include contributing to the development of the school program. Sometimes it is in this field that the teacher can make his greatest contribution to the school. Another of the teacher's major responsibilities concerns the health and safety of the pupils. This responsibility includes supervising and safeguarding the pupils to prevent accidents and taking emergency measures when necessary. In this connection, "an ounce of prevention is worth a pound of cure."

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CHAPTER 16

The beginning teacher

To the beginning teacher the prospect of the first job can be both exciting and frightening. This chapter is an attempt to give to prospective teachers suggestions which will help make their first years of teaching more enjoyable.

Preparing for the new job

In teaching, as in any other profession, the time "on the job" represents only a fraction of one's work time. Just as a lawyer does most of his work before entering the courtroom, the teacher should do much of his work before entering the classroom. This is especially true of young teachers who do not have a reservoir of experience and previous study to rely on. The beginning teacher should allow himself plenty of time to prepare for his new job. A summer's work is none too long.

As soon as you learn what your teaching assignment is to be, you should start reviewing for your courses. Much of the reviewing can be done in the textbooks the pupils are to use. This practice has several advantages. Although you will probably find the material quite elementary, it will orient you to what is expected of the pupils. Moreover, as you review for the course, you can prepare general plans for conducting it. Finally, studying a secondary-school text is a relatively easy way to review. If you are tempted to map out a more ambitious project, remember that an easy program which you finish is much better than an arduous program which you never complete.

The type of review program you plan is not so very important, but do review and study during the summer. The time for study is all too scarce once one starts the actual hurly-burly of teaching. The life of a high-school or junior-high-school teacher is a full and sometimes hectic one. Long, quiet hours for study are rare indeed, particularly in the first years of one's teaching.

During the summer months you should not only become familiar with the subject matter you are going to teach, but you should also learn as much as you can about the pupils with whom you will be working. Knowing something about the pupils when the classes start can be extremely helpful. Even if you cannot identify the individual pupils, gathering information about them from the cumulative records and any other available sources, before the opening of school, will give you a general picture of the make-up of the class which should be of assistance in your planning. Having this information on hand makes it possible for you to become acquainted with individual pupils more quickly, and should help you spot pupils with problems, special interests, or handicaps. An additional advantage of getting this information before school opens is that then you will probably have more time to go through the records carefully than you would in the fall. Thus you can eliminate one activity from the busy first weeks of school.

Preparing for the first day

In every endeavor a good start is a distinct advantage; teaching is no exception. Therefore you should get your classes off to a good beginning on the first day of school. On this day the pupils are often in a mood to learn. They have hopes that the new course and new teacher may have something worthwhile for them. So your first lesson should be one of your best. If you can possibly do so, use an interesting experiment, a demonstration, an exciting story, an intriguing problem, or something equally appealing. The initial activity may set a desirable tone for the entire course.

Some teachers devote most of the first class period to administrative work; some spend the period outlining what the class is going to do for the year; others review or test during this period in order to relate the course to previous courses. All of these activities are good and necessary, but do not allow them to prevent your course from getting off to a good start. If you cannot make these activities

part of an exciting initial class, you had better leave them for another day.

Even these activities, however, can usually be fitted into an exciting start. Some teachers devote the first day to a lively discussion of what one might study in the course. Others introduce an interesting problem. Then, while their pupils search for the solution, the teacher records the book numbers and performs other necessary administrative duties. Another possibility is to conduct a review in the form of a game or a television quiz program. Whatever approach you use, the beginning class should include something lively, new, and worthwhile.

If you were going out to teach next September, what would you need to review and study? What could you do in the summer to make your work easier in the fall?

Plan a first day for a course you may teach. What introductory activities would you try? How might you work in administrative tasks? What would you do to motivate the pupils?

RELATIONSHIPS WITH THE PUPILS

Establishing teacher control

The first days of school will bring you together with new pupils in a new situation. In this situation your position is much the same as that of a stage star at an opening performance. Under the circumstances, it is not at all unusual for a beginning teacher to feel nervous. You will certainly be tense; you may even suffer from stage fright. But no matter how nervous you are, you should display as much confidence as you can muster and go ahead with your work. If you act as though this were a commonplace occurrence which you are enjoying, the pupils will probably be convinced by your performance.

However, you are new and you can expect some boys and girls to try you out. In the interest of good discipline, it may be wise to "run a fairly tight ship" for a few days. During this period minimize the amount of movement around the classroom. A wise precaution is to have a written assignment ready so that you can give the class written work if the pupils become restless. You should have an alternate plan of some sort to fall back on if your first plan does not work.

In order to establish good teacher-pupil relationships and teacher control, learn the names of the pupils immediately. During the first period you probably should prepare a seating plan. One way to do so is to assign some written work to the pupils and then circulate about the room to copy their names from their papers. Another method is to have the names of the pupils written on a slip of paper before the period starts, and, as you call the roll, to put these slips in the proper places in a pocket-type seating plan. No matter how you prepare the seating plan, associate the names of the pupils with their faces as quickly as possible. If a pupil realizes that you know his name, you will more readily establish good rapport with him.

Showing respect for each pupil's individuality

One should learn the pupils' names not only because it helps control the pupils but because it is one of their rights. Pupils are people, and should be recognized as such. They should be treated courteously and tactfully. The fact that they are youthful does not give the teacher the right to be rude to them or to override their rights as persons. "Minding one's manners" is as important for teachers as it is for pupils.

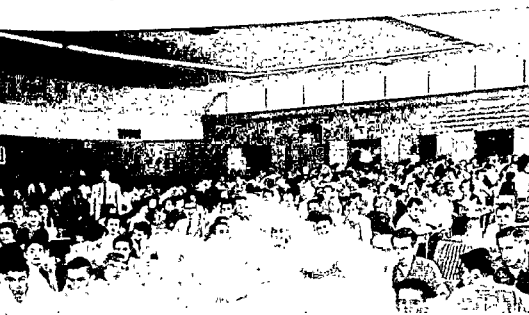
Show your pupils that you have confidence in them. Secondary-school pupils are not children, although their actions will sometimes be childlike. They are approaching adulthood. While their lack of experience necessitates giving them plenty of guidance, pupils can behave themselves if you give them the opportunity. They can also plan, execute, and evaluate their own work. If your pupils feel that you really have faith in their good sense and judgment, they will seldom let you down.

You should also develop a real interest in your pupils. Everyone reacts well to people who are truly interested in them. To demonstrate your interest, you should learn all you can about your pupils and their problems. You should also establish an "open-door" policy so that your pupils will know that you are ready to listen to their problems and help them when you can. What the pupil wishes to discuss may be trivial, but you should listen if the pupil considers it important. Problems which seem unimportant to adults frequently appear serious when viewed by adolescents.



Extracurricular activities should be real learning activities. These students are planning the next issue of the school paper.

Supervision of the cafeteria is one of the teacher's extra-class responsibilities. How can he help to make it a valuable educational experience for the pupils?





The guidance counselor helps pupils to help themselves. Here a guidance counselor conducts a pupil interview.

But it is not only the pupils' problems that you should be concerned about. You should also take an interest in their activities. Their ideas, their hobbies, and their occupations are often fascinating. The teacher who participates wholeheartedly in the extracurriculum, who attends the athletic games and school dances, who knows the school traditions and cooperates in furthering them, and who shows a real interest in all of his pupils' activities, is usually readily accepted by the pupils.

Earning the pupils' respect

In building good teacher-pupil relationships, mutual respect is the best foundation. This does not come naturally. While respect for the teacher's position is something each child should have gained by the time he reaches the secondary school, respect for the teacher as a person is something else. Each teacher must earn that respect himself.

Respect can be earned in many ways. The best, of course, is to do an outstanding job of teaching. Another is to treat all pupils fairly and impartially. Sociological studies indicate that teachers often do not give boys and girls from "underprivileged homes" the same treatment that they give to pupils from "better homes."¹ If this is true, these pupils are really underprivileged. You must treat every pupil fairly and impartially regardless of his color, ethnic background, or social position. Pupils will respect you if you do so, and the ethics of the profession require it.

Sometimes young teachers may attempt to become popular with pupils by placing themselves on a "buddy" basis with them. This procedure seldom works. In dealing with your pupils, you should be friendly, not chummy. Seek respect rather than popularity. If you are the type of person who can inculcate respect, a good teacher with a well-developed sense of humor, a wholesome personality, and a good character, popularity will take care of itself.

An experienced teacher once told a new colleague that he did not care whether the pupils liked him or not, but he did want them to respect him. What do you think of this philosophy?

Think of the teacher in your high school whom you most respected.

¹ See for instance, August B. Hollingshead, *Elmtown's Youth*, John Wiley and Sons, Inc., New York, 1919.

What qualities did he have which earned him this respect? Think of a teacher whom pupils did not respect. What caused him to lose their respect?

Dealing with the over-affectionate pupil

A particularly difficult problem in teacher-pupil relations is the pupil who develops a crush on the teacher. Needless to say, the teacher should avoid emotional involvement with any pupil. Such a relationship is both foolish and dangerous. Nevertheless, pupils frequently do develop crushes on teachers. If this should happen to you, it is probably best to ignore it, at the same time keeping the relationship with the pupil on a definitely formal, although friendly, basis.

RELATIONSHIPS WITH PARENTS

Improving parent-teacher relationships

Friendly relationships between teachers and their pupils' parents can contribute considerably to effective teaching. Of course, parent-teacher relationships are not always satisfactory. This is unfortunate because both parents and teachers should be seeking the same objective, the welfare of the pupils. One way to avoid friction with parents is to learn to know them as well as possible. If the teacher becomes acquainted with parents at school functions, at parent-teacher association meetings, in community activities, and in their homes, and in other social situations teacher-parent relationships can become much more pleasant.

In meeting parents you may find your role a little difficult. Parents are often nervous about meeting their children's teachers. After all, the teacher is in a peculiarly strategic position for judging the parent's success as a parent. The teacher sits in judgment over the activities and efforts and, to some extent, the future of the parent's child. Knowledge of this is enough to make the parent a little apprehensive when he meets the teacher. Therefore, when talking to parents, you should try to be as relaxed and friendly as possible. Above all, try to guard against the didactic tone that comes so naturally to many teachers. If parents find you a pleasant, intelligent, well-informed adult, you will probably get along with them quite well.

Seeking parental cooperation

Since parents are more interested than anyone else in the welfare of their children, they usually wish to do everything possible to help them. The teacher who so desires can often enlist the parents' aid. Many parents are glad to serve on committees and to engage in other tasks to help the school. Parents frequently have talents which the teacher can put to good use in class activities. However, before soliciting the services of parents, it is wise to consult with your principal. He may be able to help you avoid mistakes.

Parents can be particularly helpful by providing information about their children. Usually parents respond readily to such an approach as, "I seem to be having trouble teaching Jack to spell. I wonder if you can help me." Quite often the parent will not only cooperate in furnishing information about his child, but will also cooperate with any reasonable program for helping the youngster.

RELATIONSHIPS WITH THE COMMUNITY

The professional teacher's role in the community

Parent-teacher relationships lead us directly to teachers' relationships with the community in general. These relationships should be the normal ones which you might find among any adult members of the community. However, because of the teacher's peculiar position as a leader of children, the community usually expects him to adhere to a pattern of behavior that is higher than that expected of other adults. At first glance, this may seem to be a hardship, but it is merely the price of being a professional person. The community also expects a higher standard of conduct from its clergymen, physicians, and lawyers than it does from most people. Actually, all that is expected in most communities is that the teacher lead a decent, respectable life according to the mores of the community. It is the teacher's professional duty to live up to the code. If the restrictions seem unreasonable to you, you should look for a position elsewhere. In most cases, however, the mild restrictions placed upon teachers by the community should be regarded not as a burden but as a recognition of the high status which teachers hold. The community is asking you to provide leadership which it feels that others cannot give.

The members of the various professions are considered to be community leaders, and therefore should act as leaders. As a professional person, you should take part in many community activities. These include civic affairs, parent-teachers' organizations, churches, service clubs, and so on. Participating in such activities will not only help to make your life fuller and more enjoyable, but will give you splendid contacts with the community. However, you should guard against becoming a "joiner." Those who join too many organizations and participate in too many activities may not have sufficient time and energy left to carry out their professional obligations properly.

What advantages are there in becoming acquainted with your pupils' parents socially? Are there any disadvantages? In what ways would you attempt to become acquainted with them?

In one high school the teachers were required to visit the home of each of their homeroom pupils some time during the school year. What do you think of this practice?

To what extent should you as a teacher become involved in community affairs? What organizations would you join?

RELATIONSHIPS WITH OTHER STAFF MEMBERS

Establishing cordial relationships with other teachers

Second only in importance to your relationships with your pupils are those with your fellow teachers. You must get along with these people. Some of them will undoubtedly become your good friends; others you may not find so agreeable. But you will be in close contact with them every working day. Your relationships with them can make the difference between happiness and success in your work, and unhappiness and even failure. Therefore you should do everything you can to make these relationships cordial. Until you have been accepted by the group, you would do well to look, listen, and learn.

Not only should the new teacher look, listen, and learn, he should also pitch in to cooperate willingly. In some schools there is a tendency to give the less desirable tasks to the new teacher. This is common practice in most business and professional establishments. However, in the best schools, administrators and supervisors, while expecting you to do your share, have taken steps to be sure that the

load of the new teacher is a reasonable one. Although it is not wise *to volunteer for more than you can manage*, it is better to err on the side of attempting too much than too little.

As a new teacher, you will find that you have much to learn, but you will also discover that your colleagues will be pleased to teach you. They will give you much friendly advice—some good, some bad. Accept it in the spirit in which it is given, but act only on that which you are convinced is good. Some of your colleagues will be outstanding teachers, while others may be lazy, incompetent, or embittered. Although you should listen courteously to the advice of the latter, you should heed particularly that of the more successful teachers.

Undoubtedly you will find things in your school of which you do not approve. In this case, keep your criticisms to yourself until you are better established. Otherwise, the older teachers may resent your criticisms and you. Members of a faculty are much like families. They find fault themselves, but bitterly resent fault-finding by outsiders. Until you have been accepted, which may take some time, you are an outsider and should refrain from criticisms.

You should be courteous, friendly, and sociable. Join other teachers for coffee, attend the faculty parties, and accept invitations with pleasure and gratitude. Try to show your colleagues that you would like to be a member of the group, but do not let yourself become identified with any clique until you have become well acquainted with the entire faculty.

Faculty relationships are pleasant when teachers remember the common courtesies. "Please" and "Thank you" are important. So are other little things. For instance, if you share a classroom with another teacher, do not move the chairs and tables without moving them back again before you leave. Be sure to leave the blackboards clean, and do not usurp all the bulletin board space. In short, give consideration at all times to the use of the classroom by other teachers.

Relationships with administrators and supervisors

Administrators and supervisors can help the teacher in all sorts of ways. Although one's relationships with them may not become as intimate as those with other teachers, they are fully as important. The administrator aids the teacher by furnishing supplies, equip-

ment, and other services and facilities, while the supervisor aids the teacher with instructional activities. Sometimes the supervisor and the administrator are the same person. In any case, make use of their services. That is why they are there.

Teachers and administrators have the same goals in mind. Both are concerned with providing the best possible education for the children of the community. Unfortunately, some teachers tend to think of themselves and their administrators as being in a labor-management context, with the teachers being workers and the administrators the management. This may indeed be the case in some school systems, but many school administrators think of themselves not as teachers' bosses but as professional people associated with teachers in a professional responsibility. Teachers should think of the teacher-administrator relationship in the same way. On the other hand administrators are charged with high responsibilities as agents of the board of education in directing the educational program of the school system. Classroom teachers should give them respect and loyalty as responsible members of the profession.

One of the most difficult jobs of the teacher is to learn to be a subordinate while occupying a position of influence, authority, and responsibility. Although both the teacher and the administrator are professionals, the responsibility for the efficient management of the school falls squarely on the administrator. If things go wrong, it is he who is responsible to the superintendent and the board of education. Consequently, teachers should gracefully accept decisions made by the administrator, and cooperate wholeheartedly in carrying them out.

Principals, department heads, and supervisors can be of tremendous help to beginning teachers in planning their classroom activities, in organizing classroom routine, in working with difficult pupils, and in promoting good parent-teacher relationships. They know some of the difficulties you may encounter during your first year, and will be glad to suggest ways of meeting them. Seek their advice, cooperation, and help.

Keeping administrators and supervisors informed

It is particularly wise to consult your supervisor before you try anything that is decidedly new or unusual. He may be able to help

you do it more successfully and avoid mistakes you might otherwise make. Before you depart markedly from the practice that is usual in the school, you should get his permission. New methods and techniques may cause parental concern. If the supervisor knows what you are attempting, he will be prepared to answer parents' questions and to support you in what you want to do.

Letting administrators and supervisors know what you are doing is useful in more ways than one. It is particularly wise to let administrators know when you have made a serious mistake or when you have had difficulty with a pupil. Administrators do not like unpleasant surprises. When a principal first learns of a fiasco in his own school from a worried superintendent or an irate parent, he does not look with favor on the teacher concerned. If the principal has prior information about the incident, he may come to the teacher's defense. Without it, he can be quite embarrassed.

In dealing with supervisors and administrators, the teacher will do well to study them and try to adapt to their way of doing things. Perhaps the methods and policies of the principal are not those you would use. If so, do not be one of those unprofessional teachers who spend their lunch hours criticizing him and the way he administers the school. Remember that he must have had good qualities to get his appointment in the first place. If you feel that you cannot give him your cooperation and loyalty, it is better to look for another position.

Relations with nonprofessional personnel

Secretaries, clerks, and custodians can also be helpful to the teacher. The latter should always try to keep on good terms with these people and other nonprofessional personnel. Try to be reasonable in your demands on the secretaries and custodians. For instance, if mimeographing is to be done for you, submit the copy in ample time. One can cooperate in other ways. In some schools the heating system is designed to work with the windows closed. By noting this detail, you can make it much easier for the custodian to heat the entire building. You can also help the custodian by maintaining a neat and orderly classroom. The teacher who keeps in the good graces of the custodian and secretarial staff may find that he can get good cooperation when it is particularly needed.

Suppose that early in your teaching, one of the older teachers complains to you about what he considers the deterioration of the school's instructional program under the present principal and superintendent. What should you do?

What practical advantages may be obtained from maintaining good relationships with the custodial personnel? What would you do to keep up favorable relationships?

THE ETHICS OF THE PROFESSION

The teacher's first duty

Teaching is a profession and "whoever chooses teaching as a career assumes the obligation to conduct himself in accordance with the ideals of the profession."² *Professions differ from other vocations* in that they are primarily services. In the teaching profession the primary purpose is the education of the child; all other considerations are secondary. Because they deal so much with people, most professions have developed codes to regulate relationships between their members and those they serve, as well as among the professional workers themselves. The teaching profession has such a code in the "Code of Ethics of the National Education Association." The code proposes five principles,³ as follows:

1. The primary obligation of the teaching profession is to guide children, youth, and adults in the pursuit of knowledge and skills to prepare them in the ways of democracy, and to help them to become happy, useful, self-supporting citizens.

2. The members of the teaching profession share with the parents the task of shaping each student's purposes and acts toward socially acceptable ends.

3. The teaching profession occupies a position of public trust involving not only the individual teacher's personal conduct, but also the interaction of the school and the community.

4. The members of the teaching profession have inescapable obligations with respect to employment. Those obligations are nearly always shared employer-employee responsibilities based upon mutual respect and good faith.

² "Code of Ethics for the Teaching Profession," *National Education Association Handbook for the Teaching Profession*, 1957-58, The Association, Washington, D. C., p. 68.

³ *Ibid.*, copyright 1957-58, pp. 68-70. Quoted by permission of the National Education Association.

5. The teaching profession is distinguished from many other occupations by the uniqueness and quality of the professional relationship among all teachers. Community support and respect are influenced by the standards of teachers and their attitudes toward teaching and other teachers.

The entire code is presented in the appendix of this book. If teachers want the higher status they deserve, the teaching profession must enforce its code. When the profession insists that all its members be professionals in deed as well as in training, it will have marched a long way toward the recognition, both in salary and status, that it can gain for its members. It begins to appear that the profession is ready to assume these responsibilities. You should help.

GROWTH IN THE PROFESSION

Cultivating one's personal growth

When one first starts to teach, one is only beginning to learn his trade. A retired superintendent of schools says that, judging from his more than thirty years of experience in the superintendency, it takes a beginning teacher at least two years to become "worth his salt." As one teaches, the experience should help him to become more expert. Unfortunately, some teachers do not improve with experience. As another superintendent has expressed it, "Some teachers have twenty years of experience, and others have one year of experience twenty times."

Perhaps one way to keep from falling into a rut professionally is to keep growing personally. The good teacher avoids the ivory tower and gets out into the world and does things. He attempts to keep his mind sharp by interesting himself in many things and by becoming expert in some one thing. In short, the beginning teacher should try to develop an interesting, wholesome personality, and he should keep alive his intellectual curiosity.

Cultivating one's professional growth

Not only must one grow as a person in order to be a good teacher, one must also develop professionally. The first step in growing professionally is, of course, to do a good job of teaching. This means that you must give your heart to your work. Teaching should never be a secondary occupation. A teacher may find it necessary

to combine teaching with other work—either part-time work or, for married women, home-making—but the teacher must not let other work detract from teaching. Your first responsibility is to your pupils.

Keeping abreast of the field

If one is to teach well, one must keep up with one's subject. Without continued study to keep up one's competence, one's teaching soon becomes dry and dusty. Therefore you will need to keep abreast of the developments in your field. Occasionally, you may need to take refresher courses at a university or college. You should take advanced work in your field and perhaps do some original research. During vacations you may be able to get work related to your subject and thus acquire additional experience. No matter how you do it, to become a competent teacher you must move forward with the growth of your field.

Keeping abreast of the profession

To be truly competent, you must also be an expert in the study of your profession. Particularly important are changes in methods and curriculum which affect your specialty. You should continue to study the nature of learning, the theory and practice of teaching, basic philosophical positions, and current experimentation in education. Reading professional periodicals and books, as well as course work at colleges and universities, is helpful for this purpose.

Experimenting with new techniques or materials will make your teaching more lively and meaningful. Observing your own work and that of others may help you grow considerably, particularly if you continually ask yourself: Why did this technique work? Why was this one unsuccessful? Why did this one succeed in section A and fail in section B? Attempts to find better ways to teach should never cease. They are the only sure way to professional growth.

In order to find better ways of teaching you should be constantly on the alert for new ideas. Visit other teachers, talk to them, and try to get ideas from them. Try out the material and techniques which other teachers have found successful. Visit the teacher conventions and other professional meetings in search of new ideas. A fine source of ideas for teaching is the book exhibit at conventions. But you should do more than make use of the work of others, you should share successful experiences of your own. One way is to write about

your experiences for publication in a professional journal. Although you may not think that your work is of interest to others, editors are always anxious to obtain articles that tell what teachers are doing. Moreover, setting down your thoughts may help clarify your own professional thinking.

How can one keep from becoming a person who merely repeats one year of teaching experience again and again?

What professional journals do you think you ought to read regularly? What professional organizations do you think you should join?

Map out a program of advanced study which you think would be suitable for you after you have started teaching.

BECOMING A PROFESSIONAL TEACHER

Although it may be some time before you become a master teacher, you should be a thoroughly professional teacher from the day you start. A professional teacher differs from others in that he is truly competent in what he does. He is well prepared in the three things essential for teaching—he knows his pupils, his subject, and how to teach. He attempts to develop his own proficiency and to make the profession attractive to promising young people.

The truly professional teacher gives a full measure of professional service. He does a fine job at the highest possible level; he undertakes all professional responsibilities willingly. In return, he expects to be paid adequately for these services. An ethical teacher does not accept substandard salaries, nor does he undercut other teachers. He refuses to accept positions which have been vacated because of unprofessional activity. In other words, in dealing with his colleagues and employers, he does as he would have them do unto him.

Above all, the professional teacher is proud of his profession. It is an arduous and exacting profession. In the past it has not always been rewarded as well as it should have been. The professional teacher works to secure more satisfactory tangible rewards, but he will always give a little more than he is paid for. Through the schools of his community the teacher shapes the destiny of the nation. It is a profession to be proud of, and the professional teacher glories in being able to say, "I am a teacher!"

FOR FURTHER READING

- Alcorn, Marvin D., Richard A. Houseman, and Jim R. Schunert, *Better Teaching in Secondary Schools*, Henry Holt and Company, New York, 1954, Chs. 23, 24.
- Alexander, William M., and Paul M. Halverson, *Effective Teaching in Secondary Schools*, Rinehart and Company, Inc., New York, 1956, Ch. 16.
- Grambs, Jean D., William J. Iverson, and Franklin K. Patterson, *Modern Methods in Secondary Education*, Revised Edition, The Dryden Press, New York, 1958, Chs. 22-23.
- Hansen, Kenneth H., *High School Teaching*, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1957, Ch. 14.

APPENDIX A*

Resource unit: better foods at lower cost

I. The unit problem

Many of our children are not well fed. Some of them have poor breakfasts and some eat no breakfast at all. Limited spending money or ignorance of relative food values often result in unwise choice in the selection of food in the school cafeteria. Children need help in improving their eating habits. This unit is planned to help meet that need.

II. Where—when—why

A recent survey based on data collected by teachers, school administrators, school nurses and nutritionists revealed that older boys and girls reported diets rating lower than younger children. The unit is planned for the seventh-grade level in order to help the children in this group improve their dietary practices.

The subjects included are everyday living and mathematics. Some language arts will be covered because of the nature of the work.

A. Suggested methods of initiating the unit

1. Make a survey of the eating habits of children in the Junior High School using a short form questionnaire including simple, important questions.

* Prepared by Mrs. Lettie Hay and Mr. Herbert Blinn for use in the schools of Dade County, Florida; used by permission.

2. Film or film strip (see film and film strip list).
3. Visiting speakers. Public health nurse, dietitian or physician.
4. Trip to a local school cafeteria.
5. Visit to a local dairy.
6. Present a sociodrama on a humorous home situation, done by students.
7. Exploratory tests in mathematics.
8. Informal discussion of results of survey.
9. Blackboard list of children's questions regarding food.

III. Desired learnings

A. Health

1. To know what combinations of food contain the essential factors for a balanced diet.
2. To develop a willingness to choose foods which satisfy the basic nutritional needs.
3. *To realize the importance of getting up in time to eat a good breakfast.*
4. To learn how to make wise choices in the selection of foods in the school cafeteria.
5. To improve eating habits.
6. To find out if there are ways to cut costs of food without lowering diet standards and injuring health.

B. Language Arts

1. To improve written and oral communication.
2. To increase vocabulary.
3. To increase reading ability.
4. To learn to use the library.

C. Mathematics

1. Meaningful use of mathematical skills in solving problems. Included would be fractions, mixed numbers, decimals, percentage, weights, measures, and graphs.

D. Social Outcomes

1. Learning to work with others.
2. Assuming responsibility.
3. Developing initiative.
4. Experience in making wise choices.

IV. Learning experiences

A. Experiences of the entire group

1. Reading assignments in three seventh-grade textbooks.
 - a. *Building Better Bodies*—Why the body needs food, pp. 86-95.

- b. *Our Share in the Home*—The food we eat, Chapter 3, pp. 49-81; the family's money, Chapter 2, pp. 25-48; food for the sick, pp. 545-519.
- c. *Exploring Our World*—What part does food play in our lives? pp. 393-416.
2. Experiences in meaningful mathematics.
 - a. Figure expenses for food for picnic or camping trip.
 - b. Assignments in text—*Making Sure of Arithmetic, Grade 7*.
 - (1) Review of fractions and decimals, pp. 94-125 and pp. 126-136.
 - (2) Percentage, pp. 190-196.
 - (3) Using and understanding measures, pp. 184-189.
 - (4) Interpreting and making graphs, pp. 242-251.
3. Writing experiences.
 - a. Letters to private enterprise asking for materials.
 - b. Letters to government agencies asking for materials.
 - c. Invitations to guest speakers.
 - d. Written reports on research.
4. Field Trips.

For example, hospital kitchen, local super market (see suggested methods).
5. Guest speakers.

Oral experiences.
6. Panel discussions and debates.

Reports on trips and research.
- B. Experiences of small groups
 1. Writing and acting a radio drama.
 2. Doing research work.
 3. Planning the meals for a camping trip.
 4. Making a survey of food habits.
 5. Making graphs and charts.
 6. Preparing exhibit showing the basic foods group.
 7. Keeping a bulletin board.
 8. Conducting panel discussions.
 9. Gathering information about people who have made important contributions in the field of nutrition.
 10. Visiting experiences. Visit a super market to study the labels (see large group visits).
 11. Writing a radio script satire on the "Recipe Program."
- C. Individual experiences
 1. Making oral and written reports.
 2. Visiting a neighboring restaurant.
 3. Making a family budget.

4. Writing letters.
5. Personal interviews.
6. Making scrapbooks. (See small and large group experiences.)
7. Writing poems and jingles in radio "commercial" style to impress a teaching point.
8. Draw posters and cartoons to be placed in the school cafeteria at frequent intervals covering points of well-balanced diet, proper choice of foods.

V. Teaching and learning aids

A. Films and Film Strips (Dade County Library)

1. Foods.

a. Films.

(1) Food and Nutrition	11'	613.2
(2) The Training Table (color)	24'	613.2
(3) The Baking Industry	10'	641.5

b. Film Strips.

Food and Nutrition Series:

(1) Consumer Problems in Nutrition	612
(2) Essentials of Diet	612
(3) Food and Nutrition	613.2
(4) How Food is Digested	612
(5) Nutrients in Food	612

Good Health Series:

You and Your Food	613
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2. Mathematics.

a. Films.

(1) Borrowing in Subtraction	N.S.	PE	20"	5"
(2) Introduction to Fractions	C.	E	11"	5"
(3) How to Add Fractions	S.	EJS	10"	5" JH7
(4) How to Subtract Fractions	S.	EJS	10"	5" JH2
(5) How to Change Fractions	S.	EJ	11"	5" JH4
(6) How to Multiply Fractions	S.	EJ	11"	5" JH5
(7) Percentage	S.	EJ	11"	5" JH6

b. Film Strips.

Light on Mathematics (Arithmetic Series)

(1) Addition and Subtracting Fractions	EJ	5"
(2) Fractions, Decimals, and Percentage	EJ	5"

Light on Mathematics (General Math Series)

(1) Graph Uses	EJ	510
(2) Plotting Graphs	EJ	

c. Sterographs.

Community Helpers—Butcher, Grower, Vegetable Dealer, Baker,
Dairy PS 7

B. Other Films and Film Strips

The source or sources of films and film strips are given following the title. The address of source will be found at the end of this list.

The following symbols are used in indicating cost: *transp.*—borrower pays transportation both ways; *ret. transp.*—borrower pays return transportation; *rental*—borrower pays rent per day.

1. *Balanced Way, The* (1)

Castle Distributors Corp. 16mm sl. 30 min. ret. transp.

This film includes the fundamentals of sound nutrition and shows how to plan a balanced diet for the average family.

2. *Fundamentals of Diet* (3)

Florida Cooperative Library 16mm sd. 11 min. Loaned to members

Foodstuffs and their uses are shown. The basic seven are used. Shows examples of foods in each classification. Shows by animal experimentation what happens when the diet is deficient.

3. *Inside Story of Beef, The* (1)

Armour & Company 16mm sd. 20 min. ret. transp.

Shows how beef is judged for quality, graded, branded, government and packer inspection; how livestock is raised and brought to market; how age and sex are determined in the finished cuts.

4. *Kids Must Eat* (3)

Florida Film Depository 16mm sd. 15 min. transp.

Joe Kelly and Quiz Kids show that there is much "hidden hunger" among the 30 million U. S. school children and how these children could be well fed.

5. *Meat For America* (4)

Florida Film Depository 16mm sd. 20 min. transp. J-S-A

The story of meat packing, the nation's number one industry. Judging meat animals, the shipyard, the disassembly line, beef dressing, preparing ham, bacon, dried beef, etc.; the part meat plays in the American diet.

6. *Margie In the Kitchen* (4)

Castle Distributors Corporation 16mm sd. 17 min. transp. J-S

This film shows how helpful a teen-age daughter can be in the kitchen.

7. *The Man Who Missed His Breakfast* (1)

U. S. Department of Agric. Florida Film Depository 16mm sd.
13 min.

A portrayal of a family that learned to take time out to eat right.

8. *Precious Ingredient, The* (1)

Westinghouse Electric Corporation 16mm sd. 25 min.

Tells the story of vitamins, using an entertaining plot. It explains which foods contain vitamins and how to protect them in cooking.

9. *Milk Parade, The* (4)

Y.M.C.A. 16mm sd. 11 min. transp. E-J-S

Story of milk and its distribution from cow to doorstep. It shows how it is procured, transferred to city, pasteurized and prepared for bottling and delivery.

10. *One Hundred Million Oranges* (4)

Wurtele Film Production 16mm sd. clr. 28 min. transp. J-S

This film in full color tells the story of the citrus industry of Florida from the development of the sapling to the canning and marketing of the oranges and orange juice.

11. *Hidden Hunger* (1)

Florida Film Depository, Swift and Company 16mm sd. 30 min. transp.

The film is prepared by Swift & Company. It opens the way for a discussion of how to select available foods for good nutrition.

Index To Source of Films

Armour and Company, Merchandising Department, U. S. Yards, Chicago, Illinois.

Castle Distributors Corporation, 30 Rockefeller Plaza, New York 20, N. Y.

Florida Cooperative Film Library, Dept. of Visual Instruction, Extension Division, University of Florida, Gainesville. Note: Films may be secured from this source *only* if your school has membership in this film library.

Florida Film Depository, Dept. of Visual Instruction, Extension Division, University of Florida, Gainesville. Note: Films from this source may be secured for transportation costs.

General Electric Company, 187 Spring Street, N. W., Atlanta 3, Georgia.

Household Finance Corporation, 191 N. Michigan Avenue, Chicago, Illinois.

Modern Talking Pictures, 756 W. Peachtree Street, Atlanta, Georgia.

Photo Laboratory, Inc., 3825 Georgia Avenue, N. W., Washington, D. C.

C. Other Materials

1. Sources—Manufacturers.

- a. Pet Milk Company, Home Economics Department, Arcade Building, St. Louis 1, Missouri. "Meal Planning Guide," "Evaporated Milk in Experimental Cookery." Individual copies are free for students.
- b. American Institute of Baking, 1135 West Fullerton Avenue, Chicago 15, Illinois. "The Wheel of Good Eating" (chart and notebook), "Our Daily Food."
- c. American Institute of Baking, Consumer Service Department, 1135 Fullerton Avenue, Chicago 14, Illinois. "Enriched Breads."
- d. Martha Logan, Home Economics Division, Research Laboratories, Swift and Company, Chicago 9, Illinois. "The March to Market," "Handbook of Meat Cookery," "Your Guide to Meat Buying."
- e. Marion Grace Drake, National Livestock and Meat Board, 407 Dearborn Street, Chicago 5, Illinois. "Information on Cooking 'Williby' Beef," "Nutrition Yardstick."
- f. Armour and Company, Consumer Service Department, Union Stock Yards, Chicago 9, Illinois. "Study Guides For Teachers." (On all types of meat and quiz sheets.)
- g. American Meat Institute, Box 1133, Chicago 77, Illinois. "Thrifty Use." 5¢

2. Sources—Others.

- a. Free or low cost bulletins may be obtained from the various U. S. Government Agencies.
- b. Free bulletins can also be obtained from the County Agent's Office.
- c. "How Well Fed Are Our Children?" Data collected by teachers, school administrators, school nurses, and nutritionists, with the help of General Mills, January, 1949.
- d. "How To Buy More For Your Money." Margolius. (Part of book deals with food.) Doubleday and Company, Garden City, New York, 1947. \$1.00.
- e. "Consumer's Guide," and "Consumer Union Reports." 35 East First Street, New York 4, N. Y., or any public library.

D. Books

1. Andres, J. Mace; Goldberger, I.; Helleck, Grace T. *The Healthy Home and Community*. Ginn and Company, 1939.
2. Barter, Laura; Justine, Margaret M.; Rust, Lucille O. *Our Share in the Home*. J. B. Lippincott Company, 1915.
3. Beauchamp, W. L.; Mayfield, J. D.; West, J. Y. *Science Problems For the Junior Schools*. Vol. I, pp. 269-272 (7-9).
4. Friend, M. R.; Schultz, H. A. *A First Book in Home Economics*. D. Appleton Century Company, 1941. pp. 217-460 (6-9).

5. Harris, Jessie W.; Tate, Mildred T.; Anders, Ida A. *Everyday Foods*. Houghton Mifflin Company, 1946.
6. Schultz, Hazel. *The Young Consumer*. D. Appleton-Century-Crofts Company, 1948.
7. Turner, E. E. and others. *Health, Safety, Growth*. Heath, 1941 (4-9).
8. Rose, Mary Swartz. *Teaching Nutrition to Boys and Girls*. The Macmillan Company, 1944.

VI. Evaluation techniques

A. Student or Teacher

1. Discuss and list criteria for good committee membership.
2. Adequate reports.
3. Value of the Unit's work.
4. Use criteria to evaluate the students and the group.
5. Group evaluation of changed food habits resulting from the study.
6. Listing the difficulties found in attempting to change people's opinions and habits not only in regard to food but also in other matters.

B. Student Only

1. Prepare and use self-evaluation chart on individual participation.
2. Self-checking test on new math techniques prepared by teacher with pupils.
3. Self-evaluation of changed food habits.

C. Teacher Only

1. Check test on factual information on foods.
2. Check test on math skills.
3. Individual rating given to students by teacher (see sample chart).

D. Sample Chart

Room _____ Name _____	Grade _____			
		Much	Some	Little
		Improv.	Improv.	Improv.
1. Directing yourself in work	_____	_____	_____	_____
2. Directing yourself in behavior	_____	_____	_____	_____
3. Your work with other people	_____	_____	_____	_____
4. Your ability to give written reports	_____	_____	_____	_____
5. Your ability to give oral reports	_____	_____	_____	_____
6. Your ability to follow up suggestions	_____	_____	_____	_____
7. Your ability to use library	_____	_____	_____	_____

The points listed above may be changed and/or added to fit a particular group.

E. Sample Survey Chart on Food Habits

Home Room No. _____

Teacher _____

Number of Students

Boys

Girls

- | | | |
|---|-------|-------|
| 1. Did you eat breakfast this morning? | _____ | _____ |
| 2. Did you drink milk? | _____ | _____ |
| 3. Did you eat cereal? | _____ | _____ |
| 4. Did you have fruit or fruit juice? | _____ | _____ |
| 5. Did you have eggs? | _____ | _____ |
| 6. Did you have time to eat without hurrying? | _____ | _____ |

Note: Questions pertaining to other foods during the day may be added.

APPENDIX B *

Code of ethics

*of the National Education Association of the
United States, Adopted by the Representative
Assembly, Detroit, Michigan, 1952*

The NEA Committee on Professional Ethics presents this revised Code of Ethics which was adopted by the 1952 Representative Assembly at Detroit. It was prepared with the help of thousands of classroom teachers, school administrators and members of college faculties.

The origin of a National Code of Ethics for the teaching profession goes back nearly a quarter of a century. In 1924 the NEA appointed a committee on ethics to prepare a code for teachers. After five years of study the first code was adopted in 1929. It was amended in 1941, 1944 and 1948.

To be an effective and workable document a code of ethics must be more than words on paper. Like a government constitution, it comes fully alive only when interpreted and construed as specific questions arise. And, usually, only when it has been so interpreted can the need for amendment be determined. Thus, both the fullest use and the improvement of this code depend on the development of a body of code interpretations. In this the NEA membership can be most helpful.

In order to make such interpretations possible, the NEA Committee on Professional Ethics has adopted a program of issuing opinions construing specific sections of the code. The committee issues these opinions on the basis of questions submitted. Members may present questions to the committee in either of two ways: describe the facts in an actual situation, and ask the committee to interpret the code in the light of those facts; or describe a hypothetical case, and ask the committee how the code would apply in such a situation.

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Members of the committee hope these opinions not only will serve to inform the profession as to accepted ethical practices, but also along with the code itself will be a valuable source of materials for workshops and courses in professional ethics in schools of education. The American Bar Association has followed a similar plan of issuing opinions with respect to its code for more than 25 years. Study of these opinions constitutes an important part of courses in ethics at leading law schools.

The committee will carefully consider all requests for interpretations, but it reserves the right to determine those matters on which it will render formal opinions. In any event, neither the names of persons nor school systems involved will be revealed.

Requests for opinions should be addressed to the Committee on Professional Ethics, NEA headquarters.

CODE OF ETHICS

We, the members of the National Education Association of the United States, hold these truths to be self-evident—

- that the primary purpose of education in the United States is to develop citizens who will safeguard, strengthen, and improve the democracy obtained thru a representative government;
- that the achievement of effective democracy in all aspects of American life and the maintenance of our national ideals depend upon making acceptable educational opportunities available to all;
- that the quality of education reflects the ideals, motives, preparation, and conduct the members of the teaching profession;
- that whoever chooses teaching as a career assumes the obligation to conduct himself in accordance with the ideals of the profession.

As a guide for the teaching profession, the members of the National Education Association have adopted this code of professional ethics. Since all teachers should be members of a united profession, the basic principles herein enumerated apply to all persons engaged in the professional aspects of education—elementary, secondary, and collegiate.

First principle

The primary obligation of the teaching profession is to guide children, youth, and adults in the pursuit of knowledge and skills, to prepare them in the ways of democracy, and to help them to become happy, useful, self-supporting citizens. The ultimate strength of the nation lies in

the social responsibility, economic competence, and moral strength of the individual American.

In fulfilling the obligations of this first principle the teacher will—

1. Deal justly and impartially with students regardless of their physical, mental, emotional, political, economic, social, racial, or religious characteristics.
2. Recognize the differences among students and seek to meet their individual needs.
3. Encourage students to formulate and work for high individual goals in the development of their physical, intellectual, creative, and spiritual endowments.
4. Aid students to develop an understanding and appreciation not only of the opportunities and benefits of American democracy but also of their obligations to it.
5. Respect the right of every student to have confidential information about himself withheld except when its release is to authorized agencies or is required by law.
6. Accept no remuneration for tutoring except in accordance with approval policies of the governing board.

Second principle

The members of the teaching profession share with parents the task of shaping each student's purposes and acts toward socially acceptable ends. The effectiveness of many methods of teaching is dependent upon cooperative relationships with the home.

In fulfilling the obligations of this second principle the teacher will—

1. Respect the basic responsibility of parents for their children.
2. Seek to establish friendly and cooperative relationships with the home.
3. Help to increase the student's confidence in his own home and avoid disparaging remarks which might undermine that confidence.
4. Provide parents with information that will serve the best interests of their children, and be discreet with information received from parents.
5. Keep parents informed about the progress of their children as interpreted in terms of the purposes of the school.

Third principle

The teaching profession occupies a position of public trust involving not only the individual teacher's personal conduct, but also the interaction of the school and the community. Education is most effective when

these many relationships operate in a friendly, cooperative, and constructive manner.

In fulfilling the obligations of this third principle the teacher will—

1. Adhere to any reasonable pattern of behavior accepted by the community for professional persons.
2. Perform the duties of citizenship, and participate in community activities with due consideration for his obligations to his students, his family, and himself.
3. Discuss controversial issues from an objective point of view, thereby keeping his class free from partisan opinions.
4. Recognize that the public schools belong to the people of the community, encourage lay participation in shaping the purposes of the school, and strive to keep the public informed of the educational program which is being provided.
5. Respect the community in which he is employed and be loyal to the school system, community, state, and nation.
6. Work to improve education in the community and to strengthen the community's moral, spiritual, and intellectual life.

Fourth principle

The members of the teaching profession have inescapable obligations with respect to employment. These obligations are nearly always shared employer-employee responsibilities based upon mutual respect and good faith.

In fulfilling the obligations of this fourth principle the teacher will—

1. Conduct professional business thru the proper channels.
2. Refrain from discussing confidential and official information with unauthorized persons.
3. Apply for employment on the basis of competence only, and avoid asking for a specific position known to be filled by another teacher.
4. Seek employment in a professional manner, avoiding such practices as the indiscriminate distribution of applications.
5. Refuse to accept a position when the vacancy has been created through unprofessional activity or pending controversy over professional policy or the application of unjust personnel practices and procedures.
6. Adhere to the conditions of a contract until service thereunder has been performed, the contract has been terminated by mutual consent, or the contract has otherwise been legally terminated.
7. Give and expect due notice before a change of position is to be made.

8. *Be fair in all recommendations that are given concerning the work of other teachers.*
9. *Accept no compensation from producers of instructional supplies when one's recommendations affect the local purchase or use of such teaching aids.*
10. *Engage in no gainful employment, outside of his contract, where the employment affects adversely his professional status or impairs his standing with students, associates, and the community.*
11. *Cooperate in the development of school policies and assume one's professional obligations thereby incurred.*
12. *Accept one's obligation to the employing board for maintaining a professional level of service.*

Fifth principle

The teaching profession is distinguished from many other occupations by the uniqueness and quality of the professional relationships among all teachers. Community support and respect are influenced by the standards of teachers and their attitudes toward teaching and other teachers.

In fulfilling the obligations of this fifth principle the teacher will—

1. *Deal with other members of the profession in the same manner as he himself wishes to be treated.*
2. *Stand by other teachers who have acted on his behalf and at his request.*
3. *Speak constructively of other teachers, but report honestly to responsible persons in matters involving the welfare of students, the school system, and the profession.*
4. *Maintain active membership in professional organizations and, thru participation, strive to attain the objectives that justify such organized groups.*
5. *Seek to make professional growth continuous by such procedures as study, research, travel, conferences, and attendance at professional meetings.*
6. *Make the teaching profession so attractive in ideals and practices that sincere and able young people will want to enter it.*

Index

- Ability groups, 43-44, 47-48
(*See also* group techniques)
- Acceleration, 47, 110
- Achievement, as basis for marks, 236-237
in motivation, 27-28, 35
tests, 205-206, 223 (*See also*, essay tests,
objective tests)
- Action, need for, 28, 35
- Activities, instructional, 35-36, 70-73, 79-
88, 94-100, 306-307
extracurricular, 285-292
introductory, 81-85, 306-307
in lesson, 70-73
unit, 79-88, 94-100
(*See also* teaching techniques)
- Administration, 280-284
and community activities, 181
relations with, 313-315
- Adventure, desire for, 28-29
- American Textbook Publishers Institute,
141
- Anecdotal report, 12, 20, 198, 202, 294
- Analysis of papers, 112, 187, 189, 200-203
- Answers, pupil, 117-118
- Assignment, 74-77
criteria for, 76
differentiating the, 42-46
functions of, 74-76
individual, 45-47
in lesson planning, 71-74
making the, 77
and study skills, 135
unit, 94-101
(*See also* routine)
- Association for Supervision and Curricu-
lum Development, 136
- Attendance, 280
- Attitudes, as objectives, 91-93
in motivation, 25-30, 38
of parents, 7, 250-252, 257, 310-311
of pupils, 7, 25-30, 36-39, 255-256, 268-
270
of teachers, 30-31, 259-260, 311-319
- Audio-visual materials, 161-175
for slow pupils, 54
sources of, 169-174
and verbalism, 55
- Autobiographies, 16-17
- Basic activities, 95-96
- Billett, Roy O., 234
- Billett-Starr Youth Problems Inventory,
11
- Beginning teacher, 305-320
- Behavior log, 198-199, 202
- Blackboard (*see* chalkboard)
- Bell Interest Inventory, 25
- Books (*see* textbooks)
- Brilliant pupils (*see* gifted pupils)
- Bulletin boards, 164-166, 273-274
- Buros, O. K., 224
- Business management, of extracurriculum,
291-292
- Buzz sessions, 134
- Case study, 192
- Category test, 211
- Chalkboards, 164-166, 273
- Character test (*see* personality tests)
- Charts, 164-166
in books, 147
- Check list, 187, 189, 197-198
in community study, 179
as test item, 210
(*See also* diagnostic devices, rating
scale)
- Classroom, appearance, 5, 37, 272-279
arrangement, 278-279

- Classroom (*continued*)
 and discipline, 260
 laboratory, 49, 85-86, 275-276
 library, 142-143
 management, 272-284
 routine, 279-280
 in testing, 218
- Code of conduct (*see standards*)
- Code of ethics, 316-317
 of National Education Association, 330-334
- Committee, pupil, 123-128, 274-275
 teacher, 300-301
- Community, 175-181
 effect on discipline, 257-258
 resource file, 175
 service projects, 180-181
 study, 178-181
 survey (*see survey*)
 teachers' relations with, 311-312
- Completion test, 214-215
- Composition, marking of, 236
- Concept, as objective, 90-91
- Conferences, parent-teacher, 12, 250-252, 310
 pupil-teacher, 18-19, 202-203, 297-299
- Control (*see discipline*)
- Cooperative planning (*see pupil-teacher planning*)
- Core activities, 95-96
- Counseling, 293-294, 297-300
- Course of study, 59-60
- Course marks, 235-239
- Course planning, 59-63
- Criteria, for assignment, 76
 in community study, 180
 for extracurricular activities, 288-289
 for lesson plans, 70
 for marks, 237-238
 for objective tests, 208
 for projects, 120
- Cumulative records, 12-16, 294
- Curricular validity, 205-206
- Curriculum guide, 59-60
- Decor, 273-275
- Delimitation of unit (*see overview*)
- Democracy and homogeneous grouping, 48
- Devices, evaluative, 195-203
 diagnostic, 187, 190-192
 (*See also tests, equipment, audio-visual aids*)
- Diagnosis, 4-5, 111, 152-153, 185-192, 223
 devices, 187, 190-192
 levels of, 186-187
 in practice, 110
 tests, 186-187
 (*see also, evaluation*)
- Differentiated assignment, 42-46
- Discipline, 35, 37, 254-271, 307
 and motivation, 37
- Discussion, 152-158
 in pupil-teacher planning, 66-67
 (*See also group techniques*)
- Dramatization, 128-131
- Drill (*see practice*)
- Education clinic, 192
- Emergency procedure, 302-303
- Emotions, 257-258
- Environment, classroom, 5, 272-280
 and discipline, 259-260
 in motivation, 37-38
 in testing, 218
- Equipment, 71, 275-276
 audio-visual, 162-171
 (*See also materials of instruction*)
- Essay test, 215-217
- Ethics, 316-317
 code of, 320-334
- Evaluating phase, 86
- Evaluative devices, 195-203
 (*See also devices, diagnostic tests*)
- Evaluation, 6, 44-45, 183-253
 of discussion, 135
 of reading matter, 147-148
 relation to measurement, 184
 self, 51, 201-203
 of tests, 221-223
- Exhibits, 274-275
- Experiences (*see activities*)
- Extra-class duties, 285-292
- Field trip, 177-178
- File, test item, 209
- Films, 170, 280-281
 (*See also audio-visual aids, motion pictures*)
- Fire drill, 302-303
- First day, 306-307
- Flannel boards, 164-166
 construction of, 170
- Flow chart, 135
- Follow-up service, 293-294
- Forms, 281
- Free and inexpensive material, 173-174
- Free period, 51
- Free response test items, 214
- Friendship, need for, 29
- Fun, need for, 29
- Funds, 291-292

- General diagnosis, 186-187
 General objectives (*see* overview)
 Gifted pupils, 47, 50, 55-57
 (*See also* individual differences)
 Goals (*see* objectives)
 Graphs, 147
 (*See also* audio-visual aids)
 Group guidance, 299
 Group techniques, 123-139
 (*See also* grouping, pupil-teacher planning)
 Grouping, 43-44, 47-48
 (*See also* group techniques)
 Growth (*see* achievement)
 in the profession, 317-320
 Guidance, 192, 293-300
 of learning (*see* teaching)
 Guess Who Test, 13
 Guests (*see* resource people)
- Health records, 12-13, 294
 Heat, 277
 Home influence, 7, 257, 311
 Homeroom guidance, 299
 Homework, 154-155, 200-201
 Homogeneous grouping, 43-44, 47-48
 (*See also* group techniques)
 Humidity, 277
- Ideals, in motivation, 25
 as objectives, 87, 90-91, 93
 Identification test, 211
 Illustrations, in books, 147
 (*See also* audio-visual aids)
 Improvisations, 274-276
 (*See also* materials of instruction)
 Individual conferences (*see* conferences, pupil-teacher)
 Individual differences, 3, 31, 40-53, 68, 308-309
 relation to discipline, 261
 (*See also* practice, projects, remedial teaching, unit)
 Individual inventory service, 293-294
 (*See also* knowing the pupil)
 Individual instruction, 47, 49-50, 68, 109-110
 and motivation, 45
 Initiatory activities (*see* introductory activities)
 Interests, heterosexual, 29-30
 determining, 25
 importance of, 24-25
 utilizing, 24-32
 variety of, 44
 Intelligence quotient, 226-227
 Intelligence test, 224
 Interviews, in community study, 178-180
 (*See also* conferences)
 Introductory activities, 84-85, 280, 306-307
 Introductory phase, 81-85
 Item analysis, 189, 214, 221-222
 in diagnosis, 189
 Inventories, 232
- Keys, scoring, 219-221
 Kingsley, Howard L., 56
 Knowing the pupil, 10-21, 24-25, 124-126, 306
 (*See also* individual inventory service)
 Kuder Preference Inventory, 25
- Laboratory (*see* classroom laboratory)
 Laboratory phase, 85
 Leadership, 286-287
 Learning, principles of, 3-10, 23-24, 33-37,
 105-108, 156, 161-162
 blocks to, 6-8
 developmental, 4-5
 direct, 9
 meaningful, 107
 and motivation, 23-24, 33-37
 repetition, 106
 part-whole, 107
 spaced, 107-109
 vicarious, 9
 Learning products (*see* objectives)
 Lectures, 103-105
 Lesson plan, 63-74
 (*See also* unit)
 Letters to parents, 243-249
 Library, 142-143
 classroom, 142-143, 275
 Lighting, 273, 276-277
- Manchester High School, Quarterly Report, 213-244
 freshman autobiography, 16-17
 Manual, teachers', 283
 Marking, 230-239
 Matching test, 211-212
 Materials of instruction, 161-182
 challenging, 35
 for slow pupils, 53-54
 free and inexpensive, 173-174
 preparation of, 174-175
 relation to discipline, 261
 sources of, 163-172
 variety of, 51
 (*See also* teaching techniques)
 Measurement (*see* evaluation)

- Mental health and marks, 232
 Mental Measurements Yearbook, 224
 Misbehavior, causes of, 255-258
 Miss Peach, 9
 Models, 163
 Monitors, 50
 Motion pictures, 167-168, 170, 280-281
 in evaluation, 202-203
 (See also films)
 Motivation, 23-38
 and discipline, 261-262
 introductory activities, 82
 and marks, 232-233
 of practice, 108
 and promotion, 194-195
 of study, 153-154
 (See also individual differences, teaching techniques)
 Motives, 25-33
 and discipline, 261-262
 Multiple-choice test, 211
- Needs, 24-30
 Notebooks, 200-201
 Note-taking, 146
 (See also lectures)
 Normal curve of probability, 233-235
 Norms, 226-228
- Objectives, 33-34, 69-70, 88-93, 183-184
 course, 60-61
 lesson, 69-70
 unit, 88-93
 Objective test, 207-215
 Observation, 12, 187-189, 196-199
 in community study, 179
 (See also check-list, rating scale)
 Observer, 135-138
 Occupational and educational information service, 293-294
 Opaque projection, 166
 Overparticipation in extracurriculum, 290-291
 Overview, 88-89, 92
- Panels, 138
 Paperwork, 281-283
 Parent-teacher relationships, 310-311
 (See also conferences, parent-teacher)
 Part-whole learning, 107
 Percentile scores, 227
 Permissiveness, 262-263
 Personality test, 223-224
 Physical environment (see environment, classroom; community)
- Pictures, 168-169, 274
 Placement service, 293-294
 Plan book, 71-73
 Planning, 59-78, 86-101
 course, 59-62
 and discipline, 260-262
 discussion, 133-134
 extracurricular activities, 287-289
 lesson, 63-74
 for new job, 305-307
 unit, 86-101
 (See also teaching techniques)
 Play, need for, 29
 The Pleasant House, 37
 Point system, in extracurriculum, 291
 Practice, 105-110
 (See also reading, study)
 Preparation, for new job, 305-307
 Problem child, 267
 Problem inventory, 11
 Problem-situation test, 200
 Problem solving, 156-159
 in motivation, 34
 Professional teacher, 3, 305-319
 Progress (see achievement)
 Project, 119-121, 180-181
 Projectors, 166-168
 Promotion, 193-195
 Psychological diagnosis, 186-192
 Psychological organization, 61-62
 Punishment, 264-267
 Pupil, attitudes of, 7, 25-30, 36-39, 255-256, 263-270
 characteristics of, 3, 10-11, 41
 ideals, 38
 gifted, 55-57
 knowing the, 10-21
 questions, 118-119
 slow, 52-55
 values, 30-31
 Pupil-personnel services (see guidance)
 Pupil-teacher conferences (see conference, pupil-teacher)
 Pupil-teacher planning, 51, 63-68, 120, 178, 263, 287-289
 extracurriculum, 287-289
 and motivation, 32-33
 relation to discipline, 263-270
 of practice, 110
 of projects, 120
 Pupil-teacher relationships, 307-310
- Questioning, 113-119
 Questionnaire, 18, 187-189
 Questions, pupil, 177
 Quintilian, 37

- Radio, 167-168
- Rating scales, 179, 187-189, 196-197
in community study, 179
(*See also* devices, diagnostic; observation)
- Readiness, 5, 193
and promotion, 193-194
- Reading, 140-150
- Realia*, 168-170
- Realistic learning, 9-10
- Recitation, 200-201
- Recorder, 135-138
tape, 135, 171, 172, 201-202, 296, 299-300
- Records, 282-283
anecdotal (*see* anecdotal reports)
cumulative, 12-16, 294
- Referral, 296, 299-300
in discipline, 266-267
- Relationships, with administration, 181, 313-315
community, 180-181, 311-312
with non-professional staff, 315-316
parent-teacher, 250-252, 310-311
pupil-teacher, 259-260, 307-310
(*See also* knowing the pupil, motivation, teaching technique)
teacher-teacher, 166-167, 312-313
- Relative-growth groups, 234-235
- Reliability, of tests, 206
of essay tests, 215-216
of objective tests, 207
of standardized tests, 225
- Remedial teaching, 110-113, 190-192
(*See also* diagnosis)
- Repetition, 23, 106
- Replicas, 168
- Report, 187, 241-242, 280-283, 302, 314-315
anecdotal, 198
cards, 210-248
- Reporting to parents, 239-253
- Requisitions, 281-282
(*See also* materials of instruction)
- Resource people, 175-177
- Resource unit, 59-61, 171-173
sample, 321-329
- Reteaching, 111-112
- Retention, 106
planning for, 62
- Review, 103-110
- Routine, 279-280
- Rules, 262-264, 268-270
(*See also* standards)
- Safety, 301
- Sand tables, 169
- Scoring keys, 219-221
- Scoring tests, 218-221
- Seating arrangements, 275-276, 278-279
- Seattle Public Schools, 237-238
- Security, need for, 28
- Self-discipline, 268-270
- Self esteem, 27-28
- Self evaluation, 201-203
- Service project, 180-181
- Setting for learning (*see* environment)
- Sharing-of-experience phase, 83
- Short-answer test, 215
- Sigma scores, 227
- Situation test, 213-214
- Skills, as objectives, 83-93
- Skimming, 146-147
- Slides, 169-171
- Social approval, desire for, 27-28
- Social-distance scale, 13
- Social promotion, 193
- Sociodrama, 128-130
- Sociogram, 13, 121-125
- Source units, 59-61, 171, 173, 321-329
- Spaced learning, 107-109
- Speakers, 176-177
(*See also* lectures)
- Specific objectives, 90-91
- Standardized tests, 223-228
- Standards, of behavior, 262-264, 268-270
in marking, 235-238
for promotion, 193-195
(*See also* individual differences, gifted pupils, teaching slow pupils)
- Study, 150-156
- Study halls, 155
- Subject matter, 59-62, 69-71
(*See also* unit)
- Success, desire for, 27-28, 33
- Supervised study, 155
- Supplementary reports, 211-242
- Survey, community, 179-180
- Syllabus (*see* curriculum guide)
- Symposium, 138
- T score, 227
- Talented (*see* gifted pupils)
- Talks, 103-105
- Tape recorder, in discussion, 135
in evaluation, 201-203
- Teacher, attitudes, 30-31, 259-260, 311-319
and extracurriculum, 289
as guidance worker, 293-300
job of, 1-6
personality and discipline, 259-260
professional, 1-6, 311-319
role in community, 311-312

- Teacher-parent relationships, 310-311
(*See also* conferences, parent-teacher)
- Teacher-pupil relationships, 259-260, 307-310
(*See also* discipline)
- Teacher-teacher relationships, 312
- Teachers' manual, 283
- Teaching, 1-6, 49, 103-160
aids, 161-174
gifted pupils, 56-57
materials, 161-182
motivating, 23-38
techniques (*see* teaching techniques)
planning for, 59-78, 86-101
slow pupils, 53-54
unit, 79-101
- Teaching-learning cycle, 80-86
- Teaching profession, 316-317
- Teaching techniques, 103-160
committee, 123-128
discussion, 132-138
drama, 130-131
drill, 105-110
lecture, 102-105
practice, 105-110
problem solving, 156-159
project, 119-121
reading, 140-150
remedial, 110-112
sociodrama, 128-130
- Television, 167-168
- Temperature, 273
- Term marks, 236-239
- Test, 205-229
achievement, 205-206, 223
aptitude, 224
criteria for, 205-207
diagnostic, 186-187
essay, 215-217
intelligence, 224
marking, 235
objective, 207-215
objectivity, 205-207
personality, 223-224
problem-situation, 200-201
reliability, 205-207
scores, 226-228
scoring, 218-221
standardized, 223-228
usability, 205-207
validity, 205-207
- Test items, types of, 209-217
alternate items, 209-210
category, 211
check list, 210
essay, 215-217
evaluation, 213
free response, 214
identification, 211
objective, 207-215
organization, 213
short answer, 215
true-false, 209-210
- Textbooks, 140-141, 143-144, 168
use in course planning, 60-61
(*See also* reading)
- Themes, 200-202
marking of, 236
- Transfer of training, 62
- Topic, 59-60
(*See also* unit)
- Understandings, as objectives, 90-92
- Unit, 79-101
activities, 79-80
assignment, 91-101
objectives, 79-93
overview, 83-89, 92
planning of, 86-101
source, 59-61
specific objectives, 90-93
types of, 80
- Unsatisfactory Progress Report, 246-247
- Usability, 206
essay test, 215-216
objective test, 207
standardized test, 225
- Validity, 205-206
curricular, 205-206
essay test, 215-216
objective test, 207-209
standardized test, 224-225
- Values, pupil, 30-33
deferred, 31
immediate, 31
- Variety of activities, 31-36
- Ventilation, 273, 277
- Verbalism, 8-10
- Vicarious learning, 9
- Vittorino da Feltre, 37-38
- Vocabulary building, 149-150
- Wethersfield High School, 246-247
- Wethersfield Junior High School, 241
- Work plan, 83
- Wrinkle, William L., 230-231
- Z scores, 227